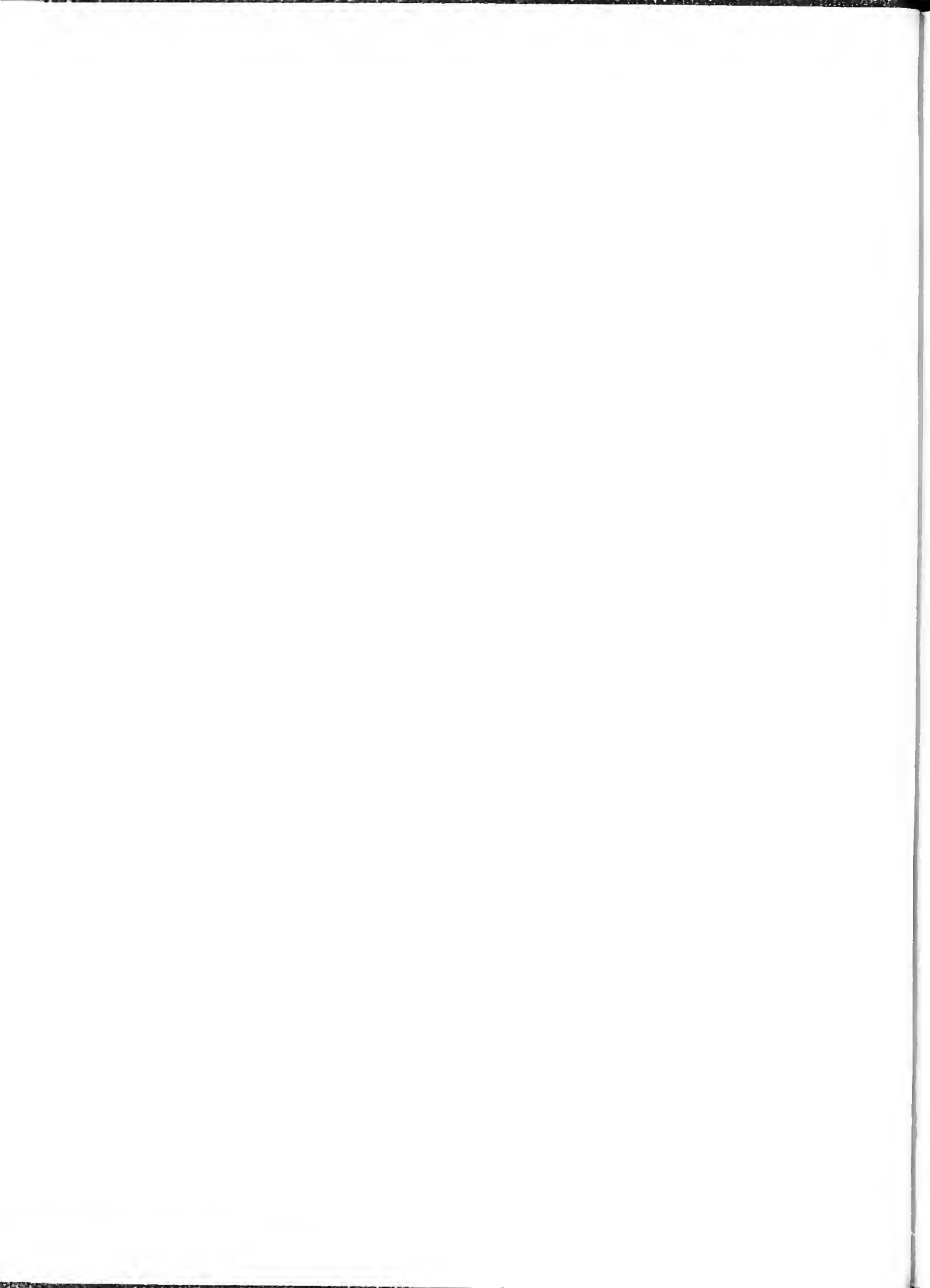


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# North Carolina

## MEDICAL JOURNAL

The Official Journal of the NORTH CAROLINA MEDICAL SOCIETY □ □ □ January 1981, Vol. 42, No. 1

### Original Articles

- Childhood Burkitt-Type Lymphoma at the North Carolina Memorial Hospital** ..... 29  
Debra Gaddy, R.N., M.S.N., Seth A. Rudnick, M.D., Campbell McMillan, M.D., and Stanley Lipper, M.D.

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**1981 Leadership Conference & Legislative Reception;** February 5-6, Raleigh  
**1981 Annual Sessions;** May 7-10, Pinehurst  
**1981 Committee Conclave;** Sept. 23-27, Southern Pines

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**Ensures smooth therapeutic effect even if a dose is missed** The relatively longer half-life of Valium® (diazepam/Roche) has important clinical and pharmacological implications. Steady-state levels generally are reached within 5-7 days with no further accumulation. At this plateau, the patient benefits from the consistent, steady response you expect. Sharp blood level variations, frequently attributed to agents with a short half-life, do not appear with Valium.

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Once steady-state levels are achieved, sudden reemergence of symptoms is unlikely. Diazepam and its active metabolites exhibit overlapping half-lives that are advantageous not only during therapy but especially when pharmacologic support is discontinued.

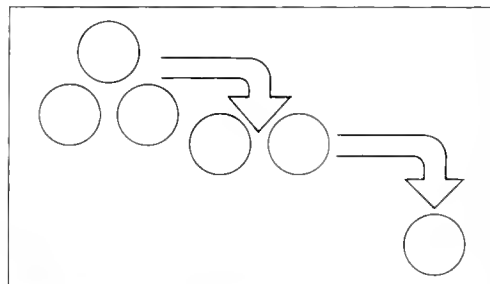
Elimination rates are gradual with Valium and thus provide a compatible adjustment interval for

the patient. In comparison, blood levels of short-acting agents with inactive metabolites decrease more rapidly and are more likely to be associated with withdrawal symptoms if medication is stopped abruptly.\* With Valium unwanted effects other than drowsiness or ataxia are rare. Patients should be cautioned about driving and advised to avoid alcohol.

**Tapers naturally; complements gradual dosage reduction at discontinuation**

When any psychoactive medication is discontinued, it is good medical practice to gradually reduce the dosage. From your own experience you know this is rarely necessary after a short course of Valium therapy, but for patients on extended therapy, gradual reduction of dosage is advisable. This regimen, along with the self-tapering feature of Valium, provides a smooth transition to independent coping.

\*Sellers EM: *Drug Metab Rev* 8(1):5-11, 1978



*in the management of  
symptoms of anxiety*

**Valium®**  
diazepam/Roche  
2-mg, 5-mg, 10-mg scored tablets

*effective therapy through  
efficient pharmacodynamics*

Before prescribing, please see summary of product information on next page



**Valium<sup>®</sup>**  
diazepam/Roche

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Management of anxiety disorders, or short-term relief of symptoms of anxiety, symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal, adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication, abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

**Usage in Pregnancy:** Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported, should these occur, discontinue drug. Isolated reports of neutropenia, jaundice, periodic blood counts and liver function tests advisable during long-term therapy.

## NORTH CAROLINA MEDICAL SOCIETY MEETINGS

PLAN  
AHEAD

ANNUAL MEETING  
May 7-10, 1981

Pinehurst Hotel  
Pinehurst, N.C.

Opportunity to complete  
up to 25 hours of  
Continuing Medical  
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COMMITTEE CONCLAVE  
September 23-27, 1981

Mid Pines Club  
Southern Pines, N.C.

LEADERSHIP CONFERENCE  
February 5-6, 1981  
Raleigh, N.C.



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# NORTH CAROLINA MEDICAL JOURNAL

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# Comprehensive relief for the complex cold

Introducing

## Extran/DM<sup>TM</sup>

High potency  
multiple symptom  
cold reliever



**BRISTOL MYERS**  **PROFESSIONAL PRODUCTS**  
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# No single leading medication can relieve more cold symptoms

fever

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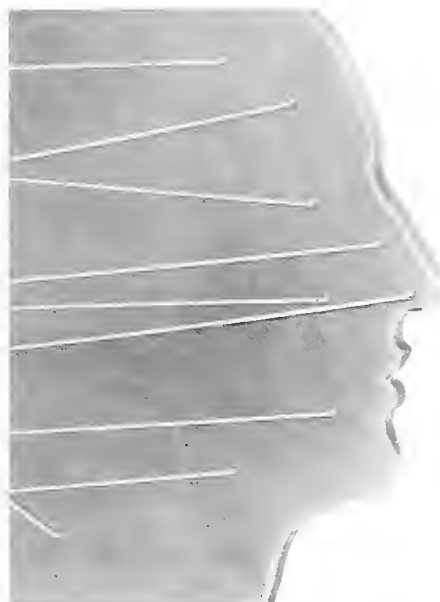
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congestion

runny nose

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- 60 mg. pseudoephedrine HCl
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- 1000 mg. acetaminophen
- 20 mg. dextromethorphan HBr

## More effective overall than many other widely used preparations

Many products lack ingredients in the decongestant, antihistamine, analgesic/antipyretic and/or antitussive categories, and cannot provide the range of relief that is possible with EXTRAN/DM.

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- no other medication is usually required
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- a single medication is easier to remember
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  - more convenient
- one medication relieves most major cold symptoms

**Extran/DM Capsules/Tablets:** Each capsule/tablet contains 500 mg acetaminophen, 30 mg. pseudoephedrine HCl, 2 mg. chlorpheniramine maleate, 10 mg. dextromethorphan HBr.

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New  
**Extran/DM**<sup>TM</sup>

analgesic, decongestant, antihistamine, cough suppressant

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for the complex cold**





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Member Child Welfare League of America. Founded 1902.

# Announcing a major symposium for primary care physicians

## Anxiety: the therapeutic dilemma



### National authorities offer views and insights

Are minor tranquilizers overused? Is anxiety overdiagnosed? Do anti-anxiety drugs create other clinical problems? What are the alternatives?

These and other critical questions will be examined in a one-day symposium and workshop at the Tulane Medical

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affect treatment modalities.

### Unique interactive format offers direct participation

Filmed case presentations provide source material for participant interaction — to demonstrate keys to differential diagnosis and clarify guidelines for selecting appropriate drug and non-drug therapies.

### Program Topics and Faculty

#### The Clinical Spectrum of Anxiety

Michael J. Halberstam, MD, Private Practice, Internal Medicine and Cardiology, Washington, DC; Editor, Modern Medicine; Associate Clinical Professor of Medicine, George Washington University Medical Center

#### Anxiety: Etiology and Dynamics

Sidney L. Werkman, MD, Professor of Psychiatry, University of Colorado School of Medicine

#### Differential Diagnosis of Anxiety

Robert E. Rakel, MD, Professor and Head, Department of Family Practice, The University of Iowa College of Medicine

#### The Problem of Drug Dependence

David H. Mielke, MD, Associate Professor of Psychiatry, Tulane University School of Medicine

#### Pharmacology and Pharmacokinetics of the Minor Tranquilizers

Leo E. Hollister, MD, Professor of Medicine, Psychiatry and Pharmacology, Veterans Administration Medical Center and Stanford University School of Medicine

#### Benzodiazepine Receptors

Solomon H. Snyder, MD, Chairman & Professor, Department of Neuroscience, Distinguished Service Professor of Neuroscience, Psychiatry and Pharmacology, The Johns Hopkins University School of Medicine

#### Management Approaches to the Patient With Anxiety

Julius Michaelson, MD, Past President, American Academy of Family Physicians

#### Tranquilizers: Guidelines for Appropriate Use

Robert E. Rakel, MD, Professor and Head, Department of Family Practice, The University of Iowa College of Medicine

#### Non-Drug Treatment Alternatives

Sidney L. Werkman, MD, Professor of Psychiatry, University of Colorado School of Medicine

Other members of the symposium faculty, from the Tulane University School of Medicine, include John W. Goethe, MD and Daniel K. Winstead, MD.

Eight credit hours in Category 1 for PRA/AMA, Prescribed hours by AAFP, Category 2-D of AOA and/or Formal Learning cognates of ACOG will be awarded.

Anxiety: The Therapeutic Dilemma is being produced in collaboration with Tulane University School of Medicine, Department of Psychiatry and Neurology, by M.E.D. Communications, under an educational grant from Abbott Laboratories.

Office of Continuing Education, Tulane Medical Center,  
1430 Tulane Avenue, New Orleans, Louisiana 70112.

Please send full information about the symposium  
Anxiety: The Therapeutic Dilemma.

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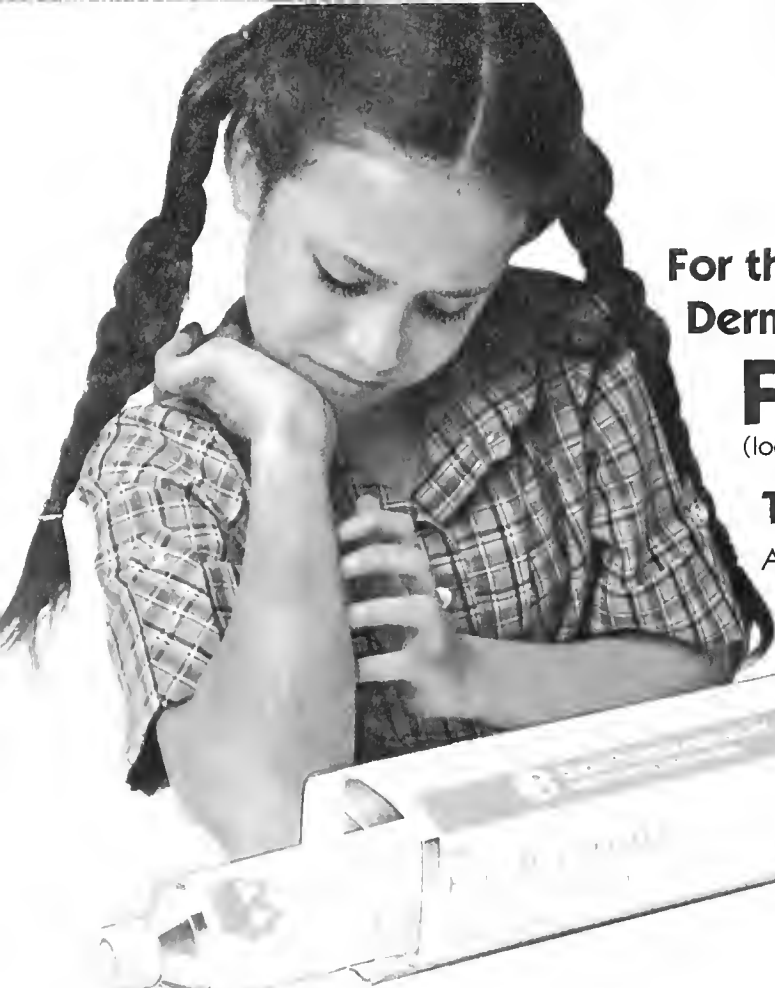
Some of our better known products are Ru-Tuss<sup>®</sup> and Ru-Vert<sup>®</sup>. This advertisement highlights three other products particularly useful for the family.

**F-E-P CREME<sup>®</sup>**

**TWIN-K<sup>®</sup>**

**SU-TON<sup>®</sup>**





For the Majority of Steroid-Responsive  
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## F-E-P CREME®

(Iodochlorhydroxyquin — Pramoxine HCl — Hydrocortisone)

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Anti-inflammatory, antifungal, antibacterial actions, and, uniquely, a topical anesthetic for immediate relief of the itching or burning that frequently accompanies skin problems. One size (1/2 ounce), one strength for ease of prescription.

\*This drug has been evaluated as possibly effective for these indications. See prescribing information on last page of this advertisement.

## For Potassium Supplementation

### TWIN-K®

Each 15 ml supplies 20 mEq of potassium as a combination of potassium gluconate (15 mEq) and potassium citrate (5 mEq) in a sorbitol base.

### The good tasting potassium supplement

- Designed for prophylactic use with diuretics and adrenocorticoids.
- Pleasant taste and convenient b.i.d. dosage aid patient compliance.
- Avoids the problems of a chloride salt.

"The organic salt can be given as a liquid without producing significant gastric symptoms and without an untoward effect on the mucosa of the small intestine."<sup>1</sup>

Note: In hypokalemic hypochloremic alkalosis, potassium chloride supplementation may be preferred.

<sup>1</sup> Beeson-McDermott, Textbook of Medicine, 15th Ed. 1979, W.B. Saunders Co., Philadelphia, p. 1959

See prescribing information on last page of this advertisement.



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Liquid Tonic

Pleasant tasting prescription tonic containing iron, vitamins, minerals, an analeptic and 18% alcohol. Ideal for those who may benefit from vitamin deficiency prevention. Just one tablespoon before each meal.

Each 45 ml (3 tablespoonfuls) contains:

Phenyltetrazolol	30 mg
Niacin	50 mg
Vitamin B-1	10 mg
Vitamin B-2	5 mg
Vitamin B-6	1 mg
Vitamin B-12	3 mcg
Choline	100 mg
Inositol	50 mg
Manganese (as Manganese Sulfate)	1 mg
Magnesium (as Magnesium Sulfate)	2 mg
Zinc (as Zinc Sulfate)	1 mg
Iron (as Ferric Pyrophosphate, Soluble)	22 mg
Alcohol	18%

See prescribing information on last page of this advertisement.

Please send me patient starter samples of:

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☐ TWIN-K<sup>®</sup>

☐ SU-TON<sup>®</sup>

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Street Address \_\_\_\_\_

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## F-E-P CREME®

**DESCRIPTION:** F-E-P Creme is a topical water soluble anti-inflammatory, anesthetic, preparation intended for treatment of various inflammatory skin disorders. The drug contains the following active ingredients:

Iodochlorhydroxyquin.	3.0%
Pramoxine Hydrochloride.	0.5%
Hydrocortisone	1.0%

### INDICATIONS AND USAGE:

Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the indications as follows, "Possibly effective": Contact or atopic dermatitis; impetiginized eczema; nummular eczema; infantile eczema; endogenous chronic infectious dermatitis; stasis dermatitis; pyoderma; nuchal eczema and chronic eczematoid otitis externa; acne urticata, localized or disseminated neurodermatitis; lichen simplex chronicus; anogenital pruritus (vulvae, scroti, ani); folliculitis; bacterial dermatoses; mycotic dermatoses such as tinea (capitis, cruris, corporis, pedis); moniliasis, intertrigo. Final classification on the less-than-effective indications requires further investigation.

Pramoxine Hydrochloride promptly relieves pain and itch. This compound may be used safely on the skin of those patients sensitive to the "caine" type local anesthetics.

**CONTRAINDICATIONS:** Hypersensitivity to F-E-P Creme, or any of its ingredients or related compounds; lesions of the eye; tuberculosis of the skin; most viral skin lesions (including herpes simplex, vaccinia and varicella).

**WARNINGS:** This product is not for ophthalmic use. In the presence of systemic infections, appropriate antibiotics should be used.

**USE IN PREGNANCY:** Topical steroids have not been reported to have an adverse effect on pregnancy. However, fetal abnormalities have been produced in pregnant laboratory animals that have been exposed to large doses of topical corticosteroids. Drugs of this class should not be used extensively during pregnancy.

**PRECAUTIONS:** F-E-P Creme may be irritating to the skin in some patients. If irritation occurs discontinue therapy. Staining of clothes or hair may also occur with use of this preparation. Although systemic toxicity has not been reported with this drug, adrenal pituitary suppression is possible, especially when the drug is used extensively or kept under an occlusive dressing for a prolonged period. Iodochlorhydroxyquin can be absorbed through the skin and interfere with thyroid function tests. Therapy with this preparation should stop at least a month before performance of these tests.

The ferric chloride test for phenylketonuria (PKU) can be positive if F-E-P Creme is on the diaper or in the urine. Prolonged use of this drug may result in an overgrowth of nonsusceptible organisms requiring appropriate therapy.

**ADVERSE REACTIONS:** Skin rash or hypersensitivity may occur following topical application. The following local adverse reactions have been reported with topical corticosteroids, especially under occlusive dressings: burning, itching, irritation, dryness, folliculitis, hypertrichosis, acneiform eruptions, hypopigmentation, perioral dermatitis, allergic contact dermatitis, maceration of the skin, secondary infection, skin atrophy, striae, miliaria. Discontinue therapy if untoward reactions occur.

**DOSEAGE AND ADMINISTRATION:** Apply a thin layer of the drug to affected parts 3-4 times daily.

### NOTE:

1. F-E-P Creme is distributed with 3.0% Iodochlorhydroxyquin for use when antibacterial/antifungal activity is desired.

2. F-E-P Creme (Plain) is the regular formulation, but without Iodochlorhydroxyquin.

Both of these preparations contain pramoxine hydrochloride, which has topical anesthetic properties. Pramoxine is not chemically related to benzocaine or amide type topical anesthetics. Patients can tolerate pramoxine although they may be sensitive to other "caine" type of topical or local anesthetics.

### HOW SUPPLIED:

F-E-P Creme	F-E-P Creme Plain
½ ounce (15 gm) tubes	½ ounce (15 gm) tubes
NDC 0524-0026-S1	NDC 0524-0025-S1

**CAUTION:** Federal law prohibits dispensing without a prescription.

## TWIN-K®

**DESCRIPTION:** Each 15 milliliter (tablespoonful) supplies 20 mEq of elemental potassium as a combination of potassium gluconate (15 mEq) and potassium citrate (5 mEq) in a sorbitol base with flavoring.

**INDICATIONS AND USAGE:** For use as oral potassium therapy in the prevention or treatment of hypokalemia which may occur secondary to diuretic or corticosteroid administration. It may be used in the treatment of cardiac arrhythmias due to digitalis intoxication.

**CONTRAINDICATIONS:** Severe renal impairment with oliguria or azotemia, untreated Addison's disease, adynamia episodica hereditaria, acute dehydration, heat cramps and hyperkalemia from any cause. This product should not be used in patients receiving aldosterone antagonists or triamterene.

**WARNINGS:** TWIN-K (potassium gluconate and potassium citrate) is a palatable form of oral potassium replacement. It appears that little if any potassium gluconate-citrate penetrates as far as the jejunum or ileum where enteric coated potassium chloride lesions have been noted. Excessive, undiluted doses of TWIN-K may cause a saline laxative effect.

To minimize gastrointestinal irritation it is recommended that TWIN-K be taken with meals or diluted with water or fruit juice. A tablespoonful (15 ml) in 8 ounces of water is approximately isotonic. More than a single tablespoonful should not be taken without prior dilution.

**PRECAUTIONS:** Potassium is a major intracellular cation which plays a significant role in body physiology. The serum level of potassium is normally 3.8-5.0 mEq/liter. While the serum or plasma level is a poor indicator of total body stores, a plasma or serum level below 3.5 mEq/liter is considered to be indicative of hypokalemia.

The most common cause of hypokalemia is excessive loss of potassium in the urine. However, hypokalemia can also occur with vomiting, gastric drainage and diarrhea.

Usually a potassium deficiency can be corrected by oral administration of potassium supplements. With normal kidney function it is difficult to produce potassium intoxication by oral administration. However, potassium supplements must be administered with caution since usually the exact amount of the deficiency is not accurately known. Checks on the patient's clinical status and periodic E.K.G. and/or serum potassium levels should be made. High serum potassium levels may cause death by cardiac depression, arrhythmias or arrest.

In patients with hypokalemia who also have alkalosis and a chloride deficiency (hypokalemic hypochloremic alkalosis), there will be a requirement for chloride ions. TWIN-K is not recommended for use in these patients.

**ADVERSE REACTIONS:** Symptoms of potassium intoxication include paresthesias of the extremities, flaccid paralysis, listlessness, mental confusion, weakness and heaviness of the legs, fall in blood pressure, cardiac arrhythmias and heart block. Hyperkalemia may exhibit the following electrocardiographic abnormalities: disappearance of the P wave, widening and slurring of the QRS complex, changes of the ST segment and tall peaked T waves.

TWIN-K taken on an empty stomach in undiluted doses larger than 30 ml can produce gastric irritation with nausea, vomiting, diarrhea, and abdominal discomfort.

**OVERDOSAGE:** The administration of oral potassium supplements to persons with normal kidney function rarely causes serious hyperkalemia. However, if the renal excretory function is impaired potentially fatal hyperkalemia can result. It is important to note that hyperkalemia is usually asymptomatic and may be manifested only by an increased serum potassium concentration with E.K.G. changes.

Treatment measures include:

1. Elimination of potassium containing drugs or foods.
2. Intravenous administration of 300 to 500 mEq/hr of a 10% dextrose solution containing 10-20 units of crystalline insulin per 1000 milliliters.
3. Correction of acidosis.
4. Use of exchange resins or peritoneal dialysis.

In treating hyperkalemia it should be noted that patients stabilized on digitalis can develop digitalis toxicity when the serum potassium concentration is changed too rapidly.

**DOSEAGE AND ADMINISTRATION:** The usual adult dosage is one tablespoonful (15 ml) in 6-8 fluid ounces of water or fruit juice,

two to four times a day. This will supply 40 to 80 mEq of elemental potassium. The usual preventative dose of potassium is 20 mEq per day while therapeutic doses range from 30 to 100 mEq per day. Because of the potential for gastrointestinal irritation, undiluted large single doses (30 ml or more) are to be avoided. Deviations from this schedule may be indicated, since no total daily dose can be defined, but must be governed by observation for clinical effects.

**HOW SUPPLIED:** Pint bottles. NDC 0524-0021-16

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**PRECAUTIONS:** Although there are no absolute contraindications to pentylenetetrazol, it should be used with caution in epileptic patients or those known to have a low convulsion threshold or a focal brain lesion. Caution should be exercised when treating patients with high doses of SU-TON who have disease. While pentylenetetrazol does not act directly on the myocardium, the results from central vagal stimulation may cause bradycardia.

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Intensive care must be provided to maintain adequate circulation and respiratory exchange.

**DOSEAGE AND ADMINISTRATION:** One tablespoonful (15 ml) times a day 20-30 minutes before meals. This drug is not for children under 12 years of age.

**HOW SUPPLIED:** Bottles of 473 ml (16 fl oz)

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**CAUTION:** Federal law prohibits dispensing without a prescription.

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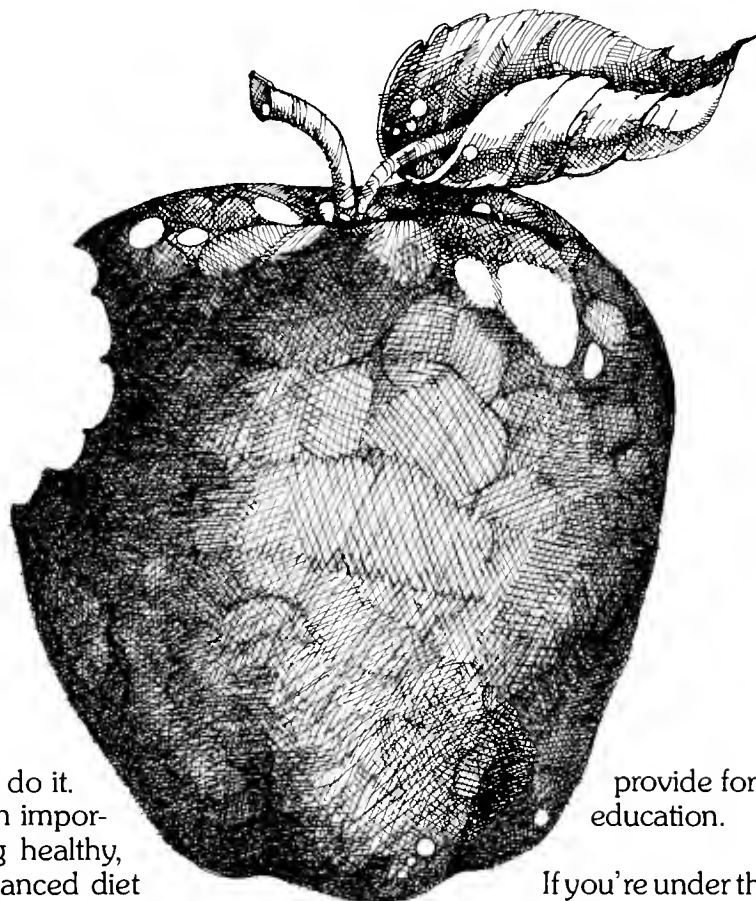
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3. Leonards, J.R. and Levy, G.: Biopharmaceutical aspects of aspirin-induced gastrointestinal blood loss in man. *J. Pharm. Sci.* 58:1277, 1969.

4. Salicylate Blood Level Study: crossover design; 9 subjects. Leonards, J.R. and Levy, G.: Effect of pharmaceutical formulation on gastrointestinal bleeding from aspirin tablets, *Arch. Intern. Med.* 129:457, 1972.

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\*PATIENT CARE Magazine—Outlook 1977, "Face-Off: Cost Containment vs. Chaos," January 1, 1977.

Lyle CB, et al. "Practice habits in a group of eight internists," ANNALS OF INTERNAL MEDICINE 84 (May 1976), 594-601.

Schroeder SA, et al. "Use of laboratory tests and pharmaceuticals: variation among physicians and effect of cost audit on subsequent use," JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION 225 (Aug. 20, 1973), 969-73.



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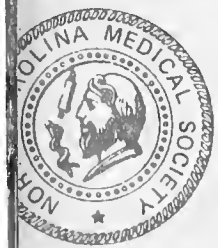
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# PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

NO. 8

JANUARY 1981

Greetings:

The ending of the year provides an excellent time for reflection with evaluation of our goals and achievements, both personal and professional. The New Year affords another opportunity for planning and future accomplishment.

At the direction of the Executive Council in September, planning is in place to carry out a management study of the State Society Headquarters functions.

An ad hoc committee composed of Drs. David Bruton, Maxton Mauney, Eugene Mayer, Edwin Monroe, and chaired by Past President Jesse Caldwell will evaluate the future legal requirements of the Medical Society. They will report their recommendations to the Executive Council.

I have considered these activities. I felt there were other areas of the State Medical Society that individual members and the component county societies might want to consider and to possibly propose changes to the House of Delegates. For example, the ten districts of the Medical Society have existed for several decades and functioned very well. The many individuals who have served have provided most excellent representation. In 1950 with 2300 members, there were ten councilors representing these districts. In 1980 with 5800 members, the same districts exist with the ten councilors to represent these numbers. In this growth period, the North Carolina AMA Delegates have increased from three to five. Reapportionment occurs in our national legislature each decade based on the census. Should we consider redistricting or some additional representation with the hope of achieving improved representation?

Is the present form of the election of a Nominating Committee, for staggered three-year terms, the best way to identify the most able nominees to serve you? I certainly hope that you feel that it has worked well in the past for you and the Society. I am not advocating change; only raising questions for your consideration. This is your Society and can only be as good as your participation and direction will allow it.

In the month of January 1981, I am committed to-date to meetings of committees, county medical societies, etc., which will require 50 hours out of Winston-Salem and 1500 miles of travel. This does not include time in the office committed to Medical Society activities. I point this out only to suggest that in the future consideration may again need to be given to paying the President or even to the consideration of establishing a physician executive vice-president position. To be affective and to represent the interest of the public and the profession, an even greater commitment of individual time and effort is necessary from the leadership. The next several months will undoubtedly be more demanding and busy with the Legislature in session. The able leadership of John Dees, Chairman of the

Legislative Committee, the support of the Legislative Committee and the Legislative Contact Physicians is a labor of love and individual commitment. We need all of this but more! What is the best method to achieve?

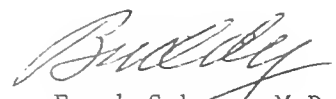
The question of continuing medical education (CME), of course, is a continuing area of concern. The three-year cycle ending December 31, 1980, reveals 2613 members of 3491 members of this cycle have completed their CME membership requirements. 388 physicians additionally have submitted partially completed reports. 490 physicians have not reported any CME to-date. These will be discussed by the Committee on Medical Education January 14, and they will make recommendations to the Executive Council at the February meeting. Your House of Delegates passed the CME requirement for membership in May 1974. This has been supported by the vast majority of the Society. There has been significant discussion at many levels regarding the value of CME requirements. Some states require this for a licensure. The State Nurses' Association President requested the Sunset Commission, at the Board of Medical Examiners' revision hearing, that CME be made a requirement for licensure in North Carolina! One state has discontinued all CME requirements. I have supported CME and continue to believe it to be helpful. After six years in North Carolina, is it time for reevaluation, reaffirmation, or repeal of CME requirements?

I am concerned with an attitude that I have received both nationally and locally. Following the November 4th election, this attitude has emerged that all of our concerns and problems will disappear January 20th when President-Elect Reagan assumes the Presidency. I would urge a realistic appraisal! Our economy, the hostage situation, national defense, energy crisis, etc., are all higher priority items. It certainly would seem national health insurance is unlikely to be a concern. Other problems, however, will continue. The AMA House of Delegates voted to continue opposition to the Health Planning Act (HSA's). A reversal of the previous AMA position on PSRO occurred by a vote of 104 to 100 with the AMA official position now in opposition to PSRO. The Secretary Designate of the Dept. of Health & Human Services, former Senator Schweiker, has previously supported the PSRO program. The physician heading the Reagan medical transition team suggested a transfer to states of this type of program management. Need I remind you of the present Medicaid Program in North Carolina? Should the new administration decide to abandon the PSRO program, I would point out the original review regulations regarding Medicare and Medicaid remain in effect. Be assured with an expenditure in excess of \$60 billion for federal health programs, some type of audit will continue. I believe that this is best done by physicians.

Please remember the Legislative Reception will be held in Raleigh on February 5. The members of the North Carolina Legislature will be guests of the Society. You are all invited. If you desire to attend, please contact Mr. Tom Adams at the Society Headquarters. The annual excellent Leadership Conference, sponsored by the Communications Committee under the excellent leadership of Liz Kanof, will begin at the Velvet Cloak Inn the next morning, February 6. Please plan to attend.

I wish for all of you every happiness and good health in the coming year and solicit your continued direction and support. With kindest personal regards, I am

Sincerely,

  
Frank Sohmer, M.D.  
President

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Adults and adolescents may enter the program which handles all categories of emotional and mental dysfunction.



**MANDALA CENTER, INC.**  
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Towards Wholeness



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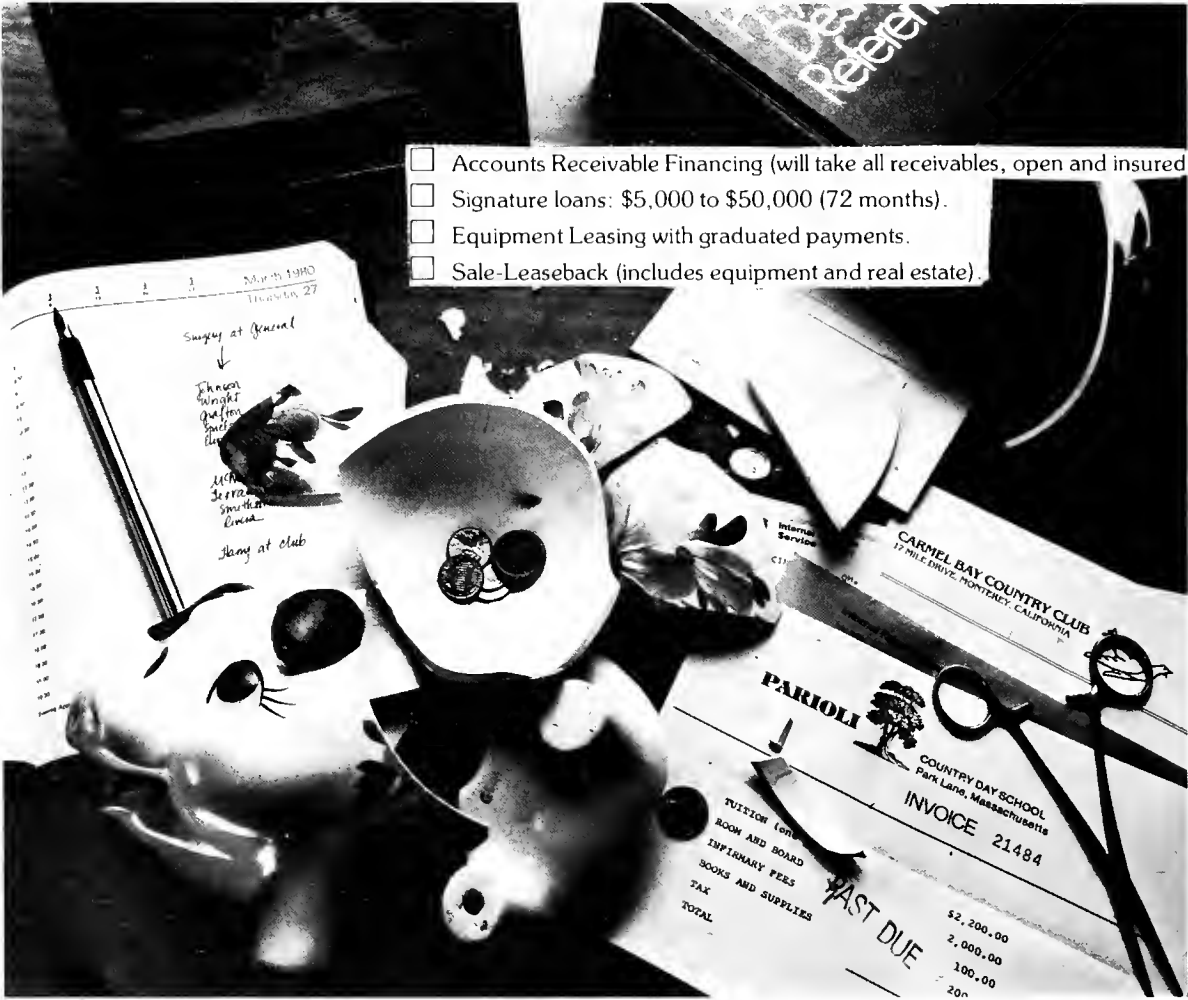
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# In Hypertension\*...When You Need to Conserve K<sup>+</sup>

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ADD  
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ADD BETA-BLOCKER, CNS  
INHIBITOR OR RESERPINE

# DYAZIDE

**EFFECTIVE STEP 1  
DIURETIC THERAPY<sup>†</sup>** (when the  
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Each capsule  
contains 50 mg. of  
Dyazide<sup>®</sup> (brand of triamterene)  
and 25 mg. of hydrochlorothiazide.

**Serum K<sup>+</sup> and BUN should be checked periodically (see Warnings).**

Before prescribing, see complete prescribing  
information in SK&F Co. literature or PDR. A brief  
summary follows:

#### WARNING

This drug is not indicated for initial therapy of  
edema or hypertension. Edema or hypertension  
requires therapy titrated to the individual. If this  
combination represents the dosage so deter-  
mined, its use may be more convenient in patient  
management. Treatment of hypertension and  
edema is not static, but must be reevaluated as  
conditions in each patient warrant.

**Contraindications:** Further use in anuria, progres-  
sive renal or hepatic dysfunction, hyperkalemia,  
existing elevated serum potassium. Hypersensi-  
tivity to either component or other sulfonamide-  
derived drugs.

**Warnings:** Do not use potassium supplements,  
salty or otherwise, unless hypokalemia develops.  
Excessive intake of potassium is markedly impaired.  
Supplementary potassium is needed, potassium  
levels should not be used. Hyperkalemia can occur,  
has been associated with cardiac irregularities  
more likely in the severely ill, with urine volume  
less than one liter/day, the elderly and diabetics with  
impaired or confirmed renal insufficiency. Periodic  
determination of serum K<sup>+</sup> levels should be determined. If  
hyperkalemia develops, substitute a thiazide alone,  
or a K<sup>+</sup> supplement. **Associated widened QRS com-  
plex or arrhythmia requires prompt additional  
therapy.** Thiazides cross the placental barrier and  
appear in cord blood. Use in pregnancy requires  
weighing anticipated benefits against possible  
hazards, including fetal or neonatal jaundice, throm-

bocytopenia, other adverse reactions seen in adults.  
Thiazides appear and triamterene may appear in  
breast milk. If their use is essential, the patient should  
stop nursing. Adequate information on use in chil-  
dren is not available. Sensitivity reactions may occur  
in patients with or without a history of allergy or  
bronchial asthma. Possible exacerbation or activa-  
tion of systemic lupus erythematosus has been  
reported with thiazide diuretics.

**Precautions:** Do periodic serum electrolyte deter-  
minations (particularly important in patients vomiting  
excessively or receiving parenteral fluids). Periodic  
BUN and serum creatinine determinations should be  
made, especially in the elderly, diabetics or those  
with suspected or confirmed renal insufficiency.  
Watch for signs of impending coma in severe liver  
disease. If spironolactone is used concomitantly,  
determine serum K<sup>+</sup> frequently; both can cause K<sup>+</sup>  
retention and elevated serum K<sup>+</sup>. Two deaths have  
been reported with such concomitant therapy (in  
one, recommended dosage was exceeded, in the  
other serum electrolytes were not properly moni-  
tored). Observe regularly for possible blood  
dyscrasias, liver damage, other idiosyncratic re-  
actions. Blood dyscrasias have been reported in  
patients receiving triamterene, and leukopenia,  
thrombocytopenia, agranulocytosis, and aplastic  
anemia have been reported with thiazides. Triam-  
terene is a weak folic acid antagonist. Do periodic  
blood studies in cirrhotics with splenomegaly. Anti-  
hypertensive effect may be enhanced in post-  
sympathectomy patients. Use cautiously in surgical  
patients. The following may occur: transient elevated  
BUN or creatinine or both, hyperglycemia and  
glycosuria (diabetic insulin requirements may be  
altered), hyperuricemia and gout, digitalis intoxica-  
tion (in hypokalemia), decreasing alkali reserve with

possible metabolic acidosis. 'Dyazide' interferes with  
fluorescent measurement of quinidine. Hypo-  
kalemia, although uncommon, has been reported.  
Corrective measures should be instituted cautiously  
and serum potassium levels determined. Discon-  
tinue corrective measures and 'Dyazide' should  
laboratory values reveal elevated serum potassium.  
Chloride deficit may occur as well as dilutional  
hyponatremia. Serum PBI levels may decrease with-  
out signs of thyroid disturbance. Calcium excretion  
is decreased by thiazides. 'Dyazide' should be with-  
drawn before conducting tests for parathyroid  
function.

Diuretics reduce renal clearance of lithium and  
increase the risk of lithium toxicity.

**Adverse Reactions:** Muscle cramps, weakness,  
dizziness, headache, dry mouth; anaphylaxis, rash,  
urticaria, photosensitivity, purpura, other dermat-  
ological conditions; nausea and vomiting, diarrhea,  
constipation, other gastrointestinal disturbances.  
Necrotizing vasculitis, paresthesias, icterus, pan-  
creatitis, xanthopsia and, rarely, allergic pneumo-  
nitis have occurred with thiazides alone. Triamterene  
has been found in renal stones in association with  
other usual calculus components.

**Supplied:** Bottles of 1000 capsules; Single Unit  
Packages (unit-dose) of 100 (intended for institu-  
tional use only); in Patient-Pak™ unit-of-use bottles  
of 100.

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# AN EXCEPTIONALLY FAVORABLE



## You can expect rapid relief of a broad range of symptoms

With Limbitrol, patients often improve within a week. Not only is insomnia relieved, but you will often see early relief of agitation, psychic and somatic anxiety, anorexia and feelings of guilt or worthlessness. This early response encourages patients to stay in therapy.

## You can minimize phenothiazine drawbacks

When you choose Limbitrol over a phenothiazine-containing product, you minimize the risk of tardive dyskinesia — now associated even with low dose, short-term phenothiazine therapy.<sup>1,2</sup> You also reduce the possibility of other extrapyramidal side effects, which occur in approximately 30% of patients receiving phenothiazines.<sup>3-5</sup> In contrast, the reported incidence of these disturbing reactions with Limbitrol or either of its compo-

nents alone is rare. (For a complete list of side effects reported with Limbitrol, please consult full disclosure.)

**References:** 1. Poulson GW. *NY State J Med* 79: 193-195, Feb 1979. 2. Hollister LE. Antipsychotic medications and the treatment of schizophrenia, chap. 9, in *Psychopharmacology: From Theory to Practice*, edited by Borchert et al. New York, Oxford University Press, pp. 134, 145. 3. Domino EF. Antipsychotic phenothiazines, thioxanthenes, butyrophenones and rauwolfia alkaloids, chap. 25, in *Drugs in Pharmacology in Medicine*, ed. 4, edited by DiPalma JR. New York, McGraw-Hill Book Company, 1971, p. 476. 4. Sovner R. Extrapyramidal syndromes and other neurologic side effects of psychotropic drugs, in *Psychopharmacology: A Generation of Progress*, Lipton MA, DiMascio A, Kilham KF, New York, Raven Press, 1978, p. 1021. 5. Donlon J, Stenson RL. *Dis Nerv Syst* 37: 629-635, 1976.



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What  
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Limbitrol  
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# Limbitrol®

**Tablets 5-12.5** each containing 5 mg clordiazepoxide and 12.5 mg amitriptyline  
(as the hydrochloride salt)

**Tablets 10-25** each containing 10 mg clordiazepoxide and 25 mg amitriptyline  
(as the hydrochloride salt)



## Efficacy without a phenothiazine

Please see summary of product information on following page.

## LIMBITROL® TABLETS Tranquilizer—Antidepressant

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Relief of moderate to severe depression associated with moderate to severe anxiety.  
**Contraindications:** Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use. Then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.

**Warnings:** Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses). Myocardial infarction and stroke reported with use of this class of drugs. Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

**Usage in Pregnancy:** Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage; withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline, symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).

**Precautions:** Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated.

Sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy.

Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.

**Adverse Reactions:** Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs.

**Cardiovascular:** Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

**Psychiatric:** Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.

**Neurologic:** Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.

**Anticholinergic:** Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.

**Allergic:** Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.

**Hematologic:** Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.

**Gastrointestinal:** Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.

**Endocrine:** Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels.

**Other:** Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, ataxia, paralytic ileus.

**Overdosage:** Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

**Dosage:** Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly.

Limbitrol 10-25, initial dosage of three to four tablets daily in divided doses, increased up to six tablets or decreased to two tablets daily as required. Limbitrol 5-12.5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher doses.

**How Supplied:** White, film-coated tablets, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) and blue, film-coated tablets, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt) — bottles of 100 and 500, Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10, Prescription Paks of 50.

## How to initiate and maintain therapy

### Select dosage strength appropriate for each patient

- ☐ Limbitrol 5-12.5 is recommended to minimize drowsiness and for elderly patients.
- ☐ Limbitrol 10-25 may be indicated for patients who tolerate medication without undue side effects.

### Specify daily dosage based on symptom severity

- ☐ An initial dosage of three tablets is recommended.
- ☐ Dosage may be increased to six tablets or decreased to two tablets daily as necessary.
- ☐ Once a satisfactory response is obtained, patients should be continued on the smallest dose required to maintain the desired effect.

### Utilize dosage options to best accommodate individual patient needs

- ☐ T.I.D. or Q.I.D., familiar regimens most suited for patients who tolerate medication without undue drowsiness.
- ☐ Two tablets one hour before bedtime and one tablet midday may minimize daytime drowsiness and help relieve a common target symptom — insomnia.
- ☐ Entire dosage *h.s.* to take maximum advantage of the sedative effect.

# Your guide to patient management... when you decide medication is needed

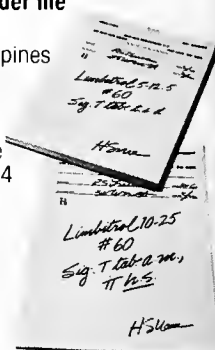
## How to make each patient an informed patient

1. Discuss with patients the probability that they will experience drowsiness, especially during the first week.
2. Reassure your patients that drowsiness is one indication that the medication is working and that it may help alleviate their insomnia.
3. Encourage patients to report if drowsiness becomes troublesome so that, if necessary, dosage schedule can be adjusted.
4. Caution patients about the combined effects with alcohol or other CNS depressants. Let them know that the additive effects may produce a harmful level of sedation and CNS depression.
5. Caution patients about activities requiring complete mental alertness, such as operating machinery or driving a car.
6. Warn pregnant patients and patients of childbearing age that the safety of Limbitrol in pregnancy has not yet been established.

Please see complete product disclosure for other pertinent information.

### Limbitrol should not be used under the following circumstances:

1. Hypersensitivity to benzodiazepines or tricyclic antidepressants.
2. Concomitantly with an MAO inhibitor. To replace an MAO inhibitor with Limbitrol, discontinue MAO inhibitor for a minimum of 14 days before cautiously initiating Limbitrol therapy.
3. During the acute recovery phase following myocardial infarction.



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In moderate depression and anxiety

# Limbitrol®

Relief without a phenothiazine



# Childhood Burkitt-Type Lymphoma At The North Carolina Memorial Hospital

Debra Gaddy, R.N., M.S.N.,\* Seth A. Rudnick, M.D.,\*\*  
Campbell McMillan, M.D.,\*\*\* and Stanley Lipper, M.D.\*\*\*\*

**ABSTRACT** Nine cases of Burkitt-type lymphoma have appeared at the University of North Carolina at Chapel Hill during the past 18 months. The patients ranged in age from 5 to 15 years and presented predominantly with evidence of intra-abdominal disease (7/9); rapid progression of the process was a distinctive feature in five. "Complete remissions were obtained in five of the nine using a combination of radiation and chemotherapy. Four are still in complete remission 4 to 15 months after initiation of therapy although one patient has relapsed. Severe metabolic problems complicated the course in six of nine patients with massive disease; in two these occurred before starting treatment. Because of inherent difficulty in the management of pediatric or adult Burkitt's lymphoma, we believe that support facilities permitting intensive treatment of both disease and complications are essential for patients who present with rapidly enlarging abdominal or facial masses.

**B**URKITT'S lymphoma is a diffuse undifferentiated lymphoma of B-lymphocyte origin occurring primarily in childhood. Although

the original cases were identified in Kenya and Uganda,<sup>1</sup> hence the name African or endemic Burkitt's, in the past decade cases have been recognized elsewhere.<sup>2</sup> The morphological findings of African and nonendemic Burkitt's are identical, but clinical features differ.<sup>3</sup>

The mean age of affected African children with Burkitt's lymphoma is seven years, compared to a mean of 11 years in North American cases. African Burkitt's lymphoma most commonly presents as a jaw mass,<sup>4</sup> originating in the marrow of facial bones. In non-Africans and older African children the gastrointestinal sites, including the omentum, mesentery, kidneys, ovaries and retroperitoneal tissues,<sup>5</sup> are the most often involved, most children presenting with signs of an abdominal mass.

The Epstein-Barr virus (EBV) is found in up to 97% of children with African Burkitt's lymphoma.<sup>6</sup> No convincing proof exists for EBV involvement in non-endemic cases. Anderson<sup>7</sup> found that only 8%-17% of North American Burkitt's patients had positive EB viral titers, not too dissimilar from the American prevalence of EB virus.

The response of Burkitt's lymphoma to chemotherapy is striking but, until recently, results for non-endemic Burkitt's lymphoma were inferior to those for African Burkitt's. However, a recent trial with American patients has shown tumor response rates, frequency of relapse, and survival to be comparable to results achieved in African

patients.<sup>4,8,9</sup> Nine patients with nonendemic Burkitt's (or Burkitt-like) lymphoma have recently been treated at North Carolina Memorial Hospital (NCMH), eight in the last 15 months. This report illustrates the potential for cure as well as the problems encountered in treating this relatively rare tumor.

## METHODS

The records of our nine patients, eight with unequivocal disease, one with a strongly suspicious bone marrow, were reviewed. Data about clinical presentations, diagnostic evaluation, primary and supportive treatment, complications, response to therapy and laboratory findings (serum electrolytes, liver and renal function tests) were collected and pathological specimens reviewed to confirm the diagnosis. In Case 9 the histology was suggestive of, but not conclusive for, Burkitt's. However, since his clinical presentation and course were consistent with the diagnosis — and he received treatment according to the Burkitt's protocol — he is also described.

## REPORTS OF REPRESENTATIVE CASES

### Case 1

A 6-year-old boy presented with a five-day history of decreased activity, night sweats and progressively severe abdominal pain. With the onset of abdominal distention over 1 to 2 days, he was admitted to his local hospital and after surgical consultation was transferred to NCMH. Examination revealed a

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Reprint requests to Dr. Rudnick, 3013 Old Clinic Bldg., 226-H, University of North Carolina, Chapel Hill, N.C. 27514.

5 x 7 cm left submandibular node, hepatosplenomegaly, abdominal distention and extensive ecchymoses. Blast cells in the peripheral blood and bone marrow aspiration were consistent with acute lymphocytic leukemia.

The patient was given intravenous fluids, allopurinol, bicarbonate; vincristine and prednisone were begun on the second day of hospitalization. The next day blood chemistries were within normal limits except for the uric acid (12.5 mg/dl). Later that day, the patient's urine output decreased and urinalysis showed hematuria, proteinuria, and 4+ amorphous urates. By mid-afternoon the child had become combative and disoriented and suffered a cardiopulmonary arrest. Serum sodium was 122 mEq/l, and serum potassium 8.2 mEq/l at the time of arrest. Resuscitative efforts failed and postmortem examination revealed extensive infiltration of the lungs, liver, spleen and kidneys with Burkitt-type lymphoma.

### Case 3

A 15-year-old white female was well until three weeks before entry when she had a flu-like syndrome with anorexia, lethargy and leg pain for which she was given antibiotics without improvement. During the week before admission she developed abdominal tenderness, profuse intermenstrual vaginal bleeding, epistaxis, fever and profound weakness. She was immediately transferred to NCMH from her local hospital.

On examination she had diffuse abdominal tenderness and distention, hepatosplenomegaly, ascites, pale, cold, clammy skin, a 3 x 5 cm axillary node, hypertension, tachycardia and tachypnea. She was disoriented and stuporous. She was found to be anemic (hematocrit 18 vol%), thrombocytopenic (35,000/mm<sup>3</sup>), hyponatremic (serum sodium 122 mEq/l), and acidotic (arterial pCO<sub>2</sub> 11 mm Hg, pH 7.25). She was also in acute renal failure (blood urea nitrogen 65 mg/dl, serum creatinine 3.9 mg/dl, uric acid 26 mg/dl).

The acidosis was treated initially with sodium bicarbonate. Fifteen

hours after admission she required continuous hemodialysis because of persisting acidosis (pH 7.16, serum CO<sub>2</sub> 5 mEq/l), excessive volume expansion, and a rapidly rising serum creatinine and BUN. She required 120-150 mEq of bicarbonate per hour in addition to mechanical hyperventilation with 100% FiO<sub>2</sub> and dialysis to maintain a stable pH. Emergency radiotherapy and chemotherapy were given 24 hours after admission. Six hours later, she died despite all resuscitative efforts.

Necropsy showed diffuse Burkitt-type lymphoma involving the kidneys, ovaries, uterus and breasts with nodular involvement of the liver, heart, adrenals, pancreas and gastric and small bowel mucosa. The dura and epidural fat was infiltrated by tumor. Splenic involvement was characterized by periarteriolar infiltration.

### Case 7

A swelling of the right side of the neck was first noted by this 7-year-old boy one month before admission. Except for a five-pound weight loss over several months, he had had no symptoms. The swelling was attributed to infection and treated with antibiotics without improvement. He soon thereafter complained of abdominal pain and was admitted to NCMH where examination revealed a 6 x 7 cm mass in the right submandibular area and a 12 cm abdominal mass. Biopsy of the cervical node showed undifferentiated lymphoma — Burkitt's type.

He was treated for six months and

after the first month was in complete remission. An off-therapy clinical restaging evaluation was negative and he continues to do well 15 months after diagnosis.

### Case 8

This 3-year-old white male was admitted to his local hospital with a 4-6 week history of pallor and increasing abdominal distention for several days. He was otherwise asymptomatic except for decreased appetite. On admission, he had a prominent abdomen with ascites, midline tumor mass, a palpable mass in the anterior rectal wall, and a hematocrit of 14 vol%. On the fifth day of hospitalization a paracentesis returned cloudy yellow fluid containing mononuclear cells consistent with intra-abdominal lymphoma confirmed by exploratory laparotomy. He was transferred to NCMH two days after the operation because of progressive abdominal distention with gastric stasis and respiratory compromise.

On the fourth day of hospitalization his urine output decreased to 45 cc in 24 hours and there was evidence of bowel obstruction. He was given 75 rads of whole abdominal irradiation. The day after radiation therapy, the patient developed large bilateral pleural effusions which contained malignant cells. The abdominal mass was larger, and chemotherapy was begun.

Induction of therapy was stormy, with hypocalcemia requiring calcium replacement, congestive heart failure, pericardial effusion, acute tubular necrosis secondary to pre-

Table I  
Presenting Symptoms of Burkitt's Patients at NCMH

Symptom:	Total	%	1	2	3	4	5	6	7	8	9
Abdominal Pain	5	55	+	+	+				+	+	
Abdominal Distention	5	55	+	+	+					+	+
Weakness	5	55	+	+	+		+	+			
Anorexia	4	44	+		+		+	+			
Sweats	4	44	+				+			+	+
Fever ( $\geq 101^\circ$ )	3	33	+	+	+						
Vomiting	3	33	+	+	+						
Pallor	3	33			+			+		+	
Adenopathy	3	33			+			+	+		
Epistaxis	2	22			+	+					
Weight loss (10% of body mass in 2 months)	2	22			+			?	+		?

+ = Occurred in case

? = Suspected, not documented

**Table II**  
**Treatment of NCMH Burkitt's Patients**

Case	Stage	Radiotherapy	Chemotherapy	Time to Response	Length of Complete Response	Site of Relapse
1	D	None	Vincristine (VCR) × 1 Prednisone × 1	None (death during induction)	—	—
2	D	2400 rads to cranium	*NIH 75-6	4 wks.	8 wks.	Central Nervous System
3	D	350 rads to cranium	Thiotepa × 1 VCR × 1 Decadron × 1	None (death during induction)	—	—
4	A	2600 rads to axilla	NIH 75-6	4 wks.	8 wks.	R axilla
5	B	600 rads to orbit 4000 to other sites	**UNC	2 wks.	10 mos.+	None
6	D	None	NIH 75-6	4 wks.	6 mos.+	None
7	D	None	NIH 75-6	6 wks.	15 mos.+	None
8	C	75 rads to abdomen	***NIH 77-04 (with A)	3 wks.	4 mos.+	None
9	D	None	NIH 75-6 VAP × 2	4 wks.	8 wks.	Abdomen

Time to response = time from first therapy to clinical remission.

Length of response = time from remission to relapse.

\*NIH 75-6 = Cyclophosphamide, Vincristine, Methotrexate (IT and IV) and Prednisone.

\*\*UNC = Cyclophosphamide, Vincristine, (V) Adriamycin, (A) Prednisone, (P) high dose Methotrexate with Leukovorin rescue

\*\*\*NIH 77-04 = Cyclophosphamide, Adriamycin, Vincristine, Prednisone, High-dose Methotrexate with leukovorin rescue.

renal azotemia, recurrent pleural effusions, fever requiring antibiotics and neutropenia. But remission was achieved and he is now beginning cycle four of therapy in complete remission.

### RESULTS

The group included one female and eight males ranging in age from 5 to 15 years (median 7 years). All but one were Caucasian. The symptoms at diagnosis are listed in Table I. The nine cases presented over a period of 18 months at

NCMH; similar cases could not be identified in the Tumor Registry of the other major tertiary care hospital in central North Carolina (Duke University Medical Center). Seven of the patients in this series presented with an abdominal mass; abdominal pain and distention were noted in five cases. Rapid onset of disease symptoms was a distinctive feature in five patients.

All were given chemotherapy alone or in conjunction with radiotherapy (Table II). Those who responded did so rapidly, but two died

suddenly within 24 hours of receiving cytotoxic agents. Both had profound hepatic and renal failure and extraordinary metabolic disturbances. With one exception (Case 7), all patients with Stage C or D disease (Table III) experienced some electrolyte or renal abnormalities during therapy. Two patients died in relapse two months and six months after diagnosis. Five patients are still alive, four with no clinical evidence of disease and one with local relapse. Eight of the nine cases came from predominantly rural counties with farming and textile manufacturing the only major industries. There appeared to be no geographic clustering since the cases were scattered throughout the state (Figure 1).

### PATHOLOGY

Diagnostic tissue obtained from all patients showed the classical light microscopic features of a

**Table III**  
**Burkitt's Lymphoma Staging Scheme**

Stage	Extent of Tumor
A	Single extra-abdominal site
B	Multiple extra-abdominal sites
C	Intra-abdominal tumor
D	Intra-abdominal tumor with one or more extra-abdominal site
AR	Stage C but with 90% of tumor resected surgically (adopted from Ziegler <sup>8</sup> )



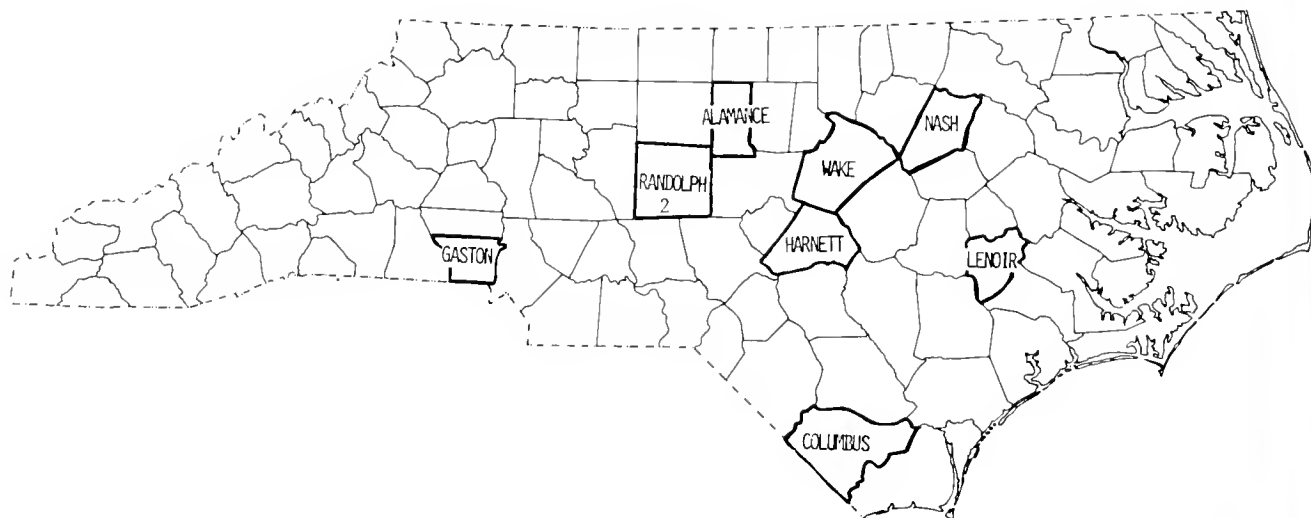


FIGURE 1:  
GEOGRAPHIC DISTRIBUTION BY COUNTIES OF NCMH  
BURKITT'S LYMPHOMA PATIENTS.

Burkitt-type lymphoma. In Case 9 the only available tissue was bone marrow, which was consistent with Burkitt-type lymphoma. The neoplastic infiltrate consisted of medium sized, non-cleaved cells, nuclei having an open chromatin meshwork, and prominent single or multiple nucleoli, surrounded by scanty basophilic, strongly pyroninophilic cytoplasm. In all nine cases, necrosis was a prominent feature, and large tingible-body macrophages were interspersed throughout the tumor giving the classical starry sky appearance (Figure 2). Wright-stained smears and imprints showed fine cytoplasmic vacuolation of tumor cells. Ultrastructural studies on Case 3 revealed abundant lipid vacuoles in the tumor cell cytoplasm (Figure 3).

#### DIAGNOSTIC TESTS

The accuracy of diagnostic tests in intra-abdominal Burkitt's is illustrated in Table IV. Intravenous pyelogram (IVP) was performed in five C or D cases and was abnormal in two. Abdominal ultrasound was done in four cases and was abnormal in each. A displaced kidney was detected on computerized tomography (CT) in one case along with para-aortic lymphadenopathy — the adenopathy was missed on intrasound. Gallium scanning of two patients failed to add information

beyond that available from physical examination of node bearing areas or the abdomen.

Table V shows the relationship between serum glutamic oxaloacetic transaminase (SGOT), lactic dehydrogenase (LDH), alkaline phosphatase (AP), and the results of liver scanning. Although either the radionuclide scan or ultrasound was abnormal in three cases of C or D disease — proved at autopsy or surgery — the abnormality was limited to hepatomegaly in two cases with no focal defects seen. In Case 7, the alkaline phosphatase was 102 U/l, LDH 1540 U/l, and SGOT 101 U/l, and both the radionuclide and ultrasound examination of the liver were normal. Case 8 had a normal liver scan, without ultrasound examination, with an alkaline phosphatase 110 U/l, LDH 1030 U/l, and SGOT 55 U/l. Thus, the ul-

trasound and/or radionuclide liver scan failed to reveal abnormality in two cases where liver function tests were abnormal.

#### DISCUSSION

Complete clinical responses have been obtained in more than 90% of patients by treatment with high-dose alkylating agents and cell cycle specific agents.<sup>8</sup> This extraordinary sensitivity to therapy is related to the same factor that causes metabolic complications — the rapid cell turnover rate.<sup>10</sup> The potential tumor doubling time is approximately 24 hours and the growth fraction is essentially 100%.<sup>10</sup>

As a consequence of the rapid cell turnover and marked sensitivity to chemotherapy, massive tumor lysis in patients with Burkitt-type lymphoma leads to metabolic disturbances when treatment begins.<sup>11-16</sup> Three of 54 patients treated with the NIH 75-6 protocol died of metabolic complications presumably resulting from disturbances associated with massive cell lysis.<sup>9</sup> Metabolic disturbances in these and other Burkitt's lymphoma patients have included hyperkalemia, hyperuricemia, hyperphosphatemia and hypocalcemia. Patients considered at high risk for developing severe metabolic complication have been those with large abdominal masses and/or renal failure. Six patients

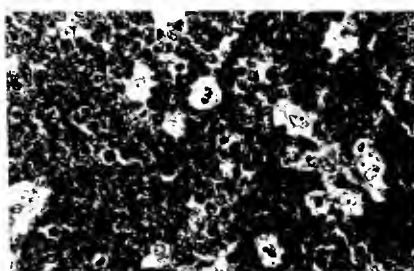


Figure 2. Photomicrograph showing monomorphic infiltrate of medium-sized lymphoid cells, with starry-sky pattern due to macrophages ingesting cellular debris. (H+Ex250)

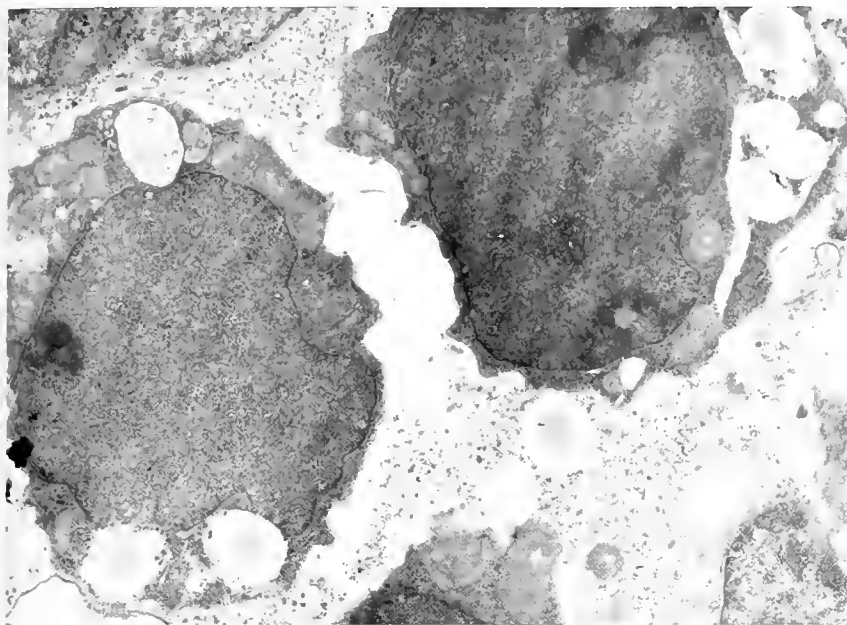


Figure 3. Electronmicrograph showing lipid vacuoles within the cytoplasm of Burkitt-type cells (x 1530).

treated here had metabolic disturbances upon initiation of induction chemotherapy despite receiving intravenous hydration, urinary alkalization and allopurinol. Each of our patients who manifested significant metabolic disturbances presented with a rapidly growing, unresected abdominal mass, elevated LDH levels and had or developed serous effusions. In Case 3 renal failure with hyperuricemia occurred before administration of chemotherapy because of the extent, location and high turnover rate of the tumor. As in other series, no patients with limited disease (Stage A or B) had metabolic complications from therapy.<sup>17</sup>

The diagnosis, evaluation and management of patients with Burkitt-type lymphoma require pathological and clinical expertise. The proliferation of a tumor in a matter of days to a point where it compresses and obstructs vital organs and threatens life makes a leisurely diagnostic workup hazardous. Early clinical recognition of Burkitt's lymphoma is essential. Accordingly, the World Health Organization<sup>3</sup> has described features that help one characterize the disease quickly:

1) Predominantly a disease of childhood.

2) Rapid onset and rapidly fatal if untreated.

3) Rapidly growing solid tumor or tumors, usually extra-nodal.

4) Generally multifocal and widely disseminated involving one or more sites (abdomen and/or viscera, retroperitoneal tissues, facial bones, long bones, thyroid, salivary glands and central nervous system).

5) Absence of significant leukemic manifestation in the peripheral blood although small numbers of malignant cells can be present in advanced cases.

We also call attention to frequent metabolic complications — hypocalcemia, hyperuricemia, and hyperkalemia aggravated by renal failure and acidosis — threatening life.

When Burkitt-type lymphoma is included in the differential diag-

Table IV  
Comparison of Diagnostic Radiology in Intra-abdominal Lymphoma

Patient	Final Pathologic Stage	IVP	Abdominal Ultrasound	Computerized Tomography	Gallium Scan
2	D	Normal	Retrovesicular mass/HM*	Not Done	Not Done
6	D	Displaced	Displaced	Displaced	
7	D	L Kidney	L Kidney	L Kidney, PAA	SM
8	C	Normal	Not Done	Not Done	Abdominal & neck uptake
9	D	Displaced R kidney and dilated ureters	Retrovesicular mass/ liver mets	Not Done	Not Done

\*HM = Hepatomegaly

\*\*SM = Splenomegaly

\*\*\*PAA = Paraaortic lymphadenopathy

Table V  
Relationship Between Liver-Spleen Scan and Liver Function Test in Burkitt's Lymphoma

Cases/Stage	Scan	AP <sup>1</sup>	LDH <sup>2</sup>	SGOT <sup>3</sup>
1/D	HM <sup>4</sup>	333	14,000	358
2/D	HM	59	1,500	50
3/D	Not Done	157	—	157
4/A	Not Done	30	—	11
5/B	Normal	78	235	11
6/D	Not Done	96	537	31
7/D	Normal	102	1,540	101
8/C	Normal	110	1,030	55
9/D	Focal defects*	662	9,182	1055

<sup>1</sup>AP = Alkaline Phosphatase (nl 20-90 units/liter)

<sup>2</sup>LDH = Lactic Dehydrogenase (nl 90-320 units/liter)

<sup>3</sup>SGOT = Glutamic-oxaloacetic transaminase (nl 5-40 units/ml)

<sup>4</sup>HM = Hepatomegaly

\*Both radionuclide and ultrasound scan

nosis, a complete diagnostic evaluation should be done *promptly*, including abdominal echo or computerized axial tomography, liver function tests, serum electrolyte determinations, bone marrow aspiration, lumbar puncture and a biopsy of the tumor mass. Little additional information will be gained by such examinations as gallium or liver/spleen scans. The intravenous pyelogram is not particularly valuable in detecting intra-abdominal adenopathy, while information on ureteral distortion may be obtained from a contrast CT study. Furthermore, a laparotomy may serve a therapeutic purpose in patients with Burkitt's lymphoma because large hyperproliferative tumor masses can be removed. This may also help some patients avoid the impaired renal function and extraordinary chemical changes which occur with rapid lysis of a tumor.<sup>12</sup> McGrath, et al,<sup>18</sup> showed that patients who had at least 90% of their abdominal tumor resected had

remission and survival rates similar to those who never had abdominal tumor. Surgery may only be delayed by the performance of gallium scans, IVPs and liver/spleen studies which are of little value.

While aggressive multidrug therapy can result in a 96% complete remission rate with a 54% projected two-year survival,<sup>9</sup> the initial mortality rate may be as high as 15%. Awareness of the "tumor lysis" syndrome as a potentially fatal complication of cytotoxic therapy, or as a *presenting* symptom, requires that these patients be subject to expert clinical evaluation and management during induction of treatment. Tertiary care support facilities should provide more children the opportunity for remission and prolonged survival when diagnostic studies and therapy are rapidly instituted.

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#### Kussmaul Breathing

1. This dyspnoea is not the product of a reflex excitation of the respiratory centers from the vagus or the laryngeal nerve, but is a result of a direct central stimulation.

2. It is not the result of a lack of oxygen in the respiratory center, either the result of a stagnation of a slow flow of blood in the capillaries or the result of an inability of the red blood cells to hold oxygen.

3. It is not the result of an inordinate increase of carbon dioxide in the blood.

4. It must have its cause in an intoxication of another sort which stands in close relationship to the chemical disturbances of the body in diabetes; concerning the nature of this toxic agent we cannot say anything for a certainty; acetonemia in the form as it is described by Kaulich, does not explain it. However, it is necessary to prove first the correctness of Kaulich's view.

— Adolf Kussmaul, 1874.

# Violence in North Carolina Families Referred to a Child Protection Team

John M. Pascoe, M.D.,\* Virginia Hebbert, M.S.W., A.C.S.W.,  
Trish M. Perl, A.B., and Frank Loda, M.D.

**ABSTRACT** Intrafamily violence is common and children are affected whether they are victims or observers. The frequency of domestic violence in the families of all children from North Carolina referred to the Maltreatment Syndrome Team of North Carolina Memorial Hospital from June 1975 to May 1977 was evaluated by review of their medical records. Wife abuse in these troubled households was as common in families who did not physically abuse their children as in those who did. Wife abuse was strongly associated with alcohol abuse and also appeared to occur more frequently in older mothers with more than three pregnancies. Antisocial behavior was also common in this group of families. These data are consistent with those of other independent researchers. They suggest that domestic violence may occur more frequently in North Carolina families referred to a Child Protection Team than in the general population of the state and emphasize the importance of involving the entire family in child maltreatment interventions.

## INTRODUCTION

**I**NTRAFAMILY violence is common. Ten percent to 25% of families<sup>1, 2</sup> report at least one epi-

sode of domestic physical violence a year. Hospital-based reviews of child maltreatment during the past decade have not emphasized other manifestations of family violence in their samples.<sup>3-10</sup> However, domestic violence is an important consideration in the diagnosis and treatment of abusive families because children are affected whether they are victims or observers.<sup>11,12</sup> Therefore, the experience of the Maltreatment Syndrome Team (MST) of North Carolina Memorial Hospital (NCMH) for two years was reviewed to ascertain the frequency of violence in the home and antisocial behavior in all families from North Carolina referred to us during that time.

## METHODS

The Maltreatment Syndrome Team is an interdisciplinary group that reviews cases of suspected child abuse and neglect referred by the medical staff at NCMH. One investigator reviewed the medical records of all children (177 children representing 158 families) referred to the MST from June 1975 through May 1977. Reasons for referral to the MST, medical history, family history and demographic data were collected. The investigator also obtained additional information from the social worker assigned to each family.

The following operational definitions were used:

1. Child Maltreatment: The disposition of NCMH's MST was used

to categorize cases. The team's definitions of maltreatment were similar to those of the November 1978 draft of the Operational Definition Report for the National Study of the Incidence and Severity of Child Abuse and Neglect by Westat, Inc., submitted to the National Center on Child Abuse and Neglect.<sup>13</sup>

2. Wife Abuse — "Wife" denoted the index child's mother-figure, usually the biological mother, who was not necessarily married to the man in the household. Wife abuse was considered present when there were verbal reports by family members of physical injury, observations by hospital staff of physical injury, medical care for injuries inflicted on the mother figure, or involvement of police officers in domestic altercations.

3. Alcohol Abuse — The Family History Research Diagnostic Criteria<sup>14</sup> for alcoholism were used. These criteria include legal, medical and social indicators of alcohol abuse.

Null hypotheses were tested using the chi square statistic. Measures of effect were expressed as risk ratios.<sup>15</sup>

## RESULTS

### CHILDREN

The characteristics of children in this sample were similar to those of hospital-based studies from other states.<sup>5-12</sup> There was a predominance of young children: 32% were less than 12 months of age and 61%

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were less than 36 months of age. A history of at least one major health problem was present in 59% of the children, reflecting NCMH's tertiary care function. The sex and race distribution of the study population was comparable to that of all children seen by the Department of Pediatrics at NCMH.

Table I lists the diagnoses of the MST. In 49 cases there were multiple diagnoses. Dermatological manifestations of maltreatment were present in 35 (62%) of the 56 physically abused children, and

**TABLE I**  
**CATEGORIES OF MALTREATMENT**  
(June 1975-May 1977)  
Number of Children—177

Categories*	# of Cases
<b>Abuse and/or Neglect Present</b>	
Neglect	72
Physical Abuse	56
Failure to Thrive	25
Child-Child Injury	13
Ingestion Associated with Neglect	9
Emotional Abuse	9
Sexual Abuse	6
<b>Abuse and/or Neglect Not Present</b>	
High Risk Psychosocial Factors Present	50
High Risk Psychosocial Factors Not Present	3

\*Categories of Abuse and Neglect are not mutually exclusive; 49 children had multiple diagnoses.

fractures were present in 20 (36%). The frequencies of specific injuries are described in Table II. Two deaths were caused by the index episode of abuse and three deaths were related to subsequent maltreatment. In 70% of the cases a report of abuse or neglect was made under the North Carolina reporting law. Although no abuse or neglect was identified in 30% of cases, community resources were frequently asked to assist these families with problems of daily living (e.g., child care and financial problems).

### THE FAMILIES

The families came from 42 of the 100 counties in North Carolina. Sixty-seven percent of the families were from rural counties, but only 6% were engaged in agriculture.

**TABLE II**  
**DERMATOLOGICAL AND SKELETAL MANIFESTATIONS**  
**OF PHYSICAL ABUSE**  
(N = 56)

*Category	# of Cases	%
Bruises and/or Abrasions	30	54%
Burns	9	16%
Lacerations	8	14%
Skull Fractures	11	20%
Long-bone Fractures	9	16%
Skull and Long-bone Fractures	2	3%

\*Categories are not mutually exclusive.

This pattern is typical for North Carolina where 47.6% of the population is rural, but non-farm.<sup>16</sup> Families received income from a variety of sources. Both parents were employed in 20% of cases and the father figure was employed in an additional 50% of families. Sixty-nine families had multiple sources of income, including employment. Aid to Families with Dependent Children, social security and disability benefits.

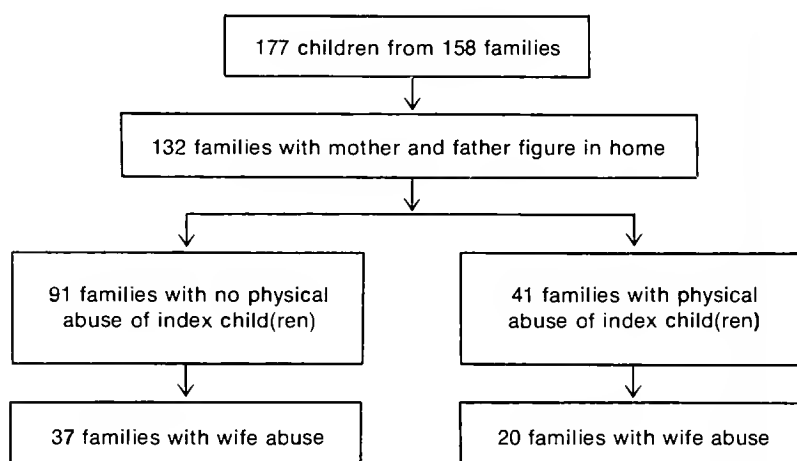
There were 158 families in the study, but both a mother and a father figure were present in only 132 families. (See Figure 1.) In 41 families with a mother and father figure, there was physical abuse of the index child or children and in 20 (49%) of these families there was wife abuse. In the 91 study families

with both a mother and father figure and no physical abuse of the index child or children, wife abuse occurred in 37 (40%) of the households. There was no difference in the prevalence of wife abuse between families who abused and did not abuse their children ( $X^2 = 0.759$   $df = 1$ ,  $p > 0.2$ ). A high prevalence of wife abuse was present in families where a history of multiple episodes of physical abuse of the index child was elicited on initial presentation. Wife abuse was present in nine (90%) of these families.

Data on alcohol use were available in 77 of the 132 families with both spouses at home. Wife abuse was present in 39 of 47 (82%) families with alcohol abuse and three of 30 (10%) families with no alcohol abuse. The risk ratio,

$$\frac{\text{proportion of abused wives in families with alcohol abuse}}{\text{proportion of abused wives in families w/out alcohol abuse}} = \frac{0.82}{0.10} = 8.2$$

**FIGURE 1**  
**OCCURRENCE OF PHYSICAL ABUSE OF INDEX CHILD(REN) AND WIFE ABUSE**  
**IN FAMILIES SEEN BY THE MALTREATMENT SYNDROME TEAM**  
June 1975 through May 1977



is significant ( $X^2 = 39.34$ ,  $df = 1$ ,  $p < 0.001$ ).

Information concerning the number of pregnancies experienced was available on 95 of the 132 mothers. More than three pregnancies in the mother figure was associated with an increase in wife abuse. Wife abuse was present in 23 of 30 (77%) mothers (mean age at birth of index child — 25.4 years) who had more than three pregnancies. Spouse abuse occurred in 34 of 65 (52%) women (mean age at birth of index child — 21.1 years) with three or fewer pregnancies. The risk ratio,

$$\frac{\text{proportion of abused mothers in the more-than-3 pregnancies group}}{\text{proportion of abused mothers in the 3 or fewer pregnancies group}} = \frac{0.77}{0.52} = 1.4$$

is statistically significant ( $X^2 = 5.07$ ,  $df = 1$ ,  $p < 0.025$ ).

Violent and antisocial behavior in these families was not limited to the home. In 62 of all 158 families (39%) there was a history of deviant, frequently illegal behavior outside the home. The likelihood of felonies ( $X^2 = 5.06$ ,  $df = 1$ ,  $p < 0.025$ ) and suicide or suicidal gesture ( $X^2 = 8.20$ ,  $df = 1$ ,  $p < 0.005$ ) was higher in families who physically abused their children than in those who did not (Table III). There was no difference between the two groups for less serious forms of antisocial behavior ( $X^2 = 1.42$ ,  $df = 1$ ,  $p > 0.20$ ).

## DISCUSSION

As in most retrospective chart reviews, several forms of bias are in-

herent in this study. Much of the information was obtained by social workers aware of the issues involved and more likely to focus their interview on domestic violence in families of maltreated children. In many cases, especially those seen as outpatients, there was insufficient contact to obtain a uniform amount of data on every family. Information was often provided by only one family member and there was no opportunity for home visits or interviews with other family members.

Our data suggest that domestic

violence may be more common in families referred to child protection teams (40%) than in the general population (10% to 25%).<sup>1, 2</sup> The strong association between alcohol abuse and child maltreatment in this sample corroborates the findings of another investigator.<sup>17</sup> The prevalence of wife abuse for women with more than three pregnancies (77%) suggests that interparental violence may not diminish with time and that it becomes a habitual mode of interaction in some families.

These family violence data are consistent with findings in a similar sample<sup>18</sup> from North Carolina. Both studies have important implications for diagnosis and treatment because violence reverberates through the family system<sup>19</sup> and "sets the stage

for the ramifications of aggression and violence and other antisocial behaviors which surface in adolescence and adulthood."<sup>20</sup> The abused child's physician must approach the "family as a unit"<sup>21</sup> to protect the patient and initiate therapy for the entire family.

## Acknowledgment

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TABLE III

### ANTISOCIAL BEHAVIOR IN HOUSEHOLD FAMILY MEMBERS OF CHILDREN SEEN BY THE MALTREATMENT SYNDROME TEAM

June 1975 through May 1977

Antisocial Behaviors*	Families with Physical Abuse of Index Child(ren)		Families without Physical Abuse of Index Child(ren)		P
	# of families N = 41	%	# of families N = 117	%	
Arrest for murder, assault, larceny, or possession of deadly weapon	10	24%	12	10%	< 0.025
Suicide or suicidal attempt	10	24%	8	7%	< 0.005
Other antisocial behavior (drunk driving, prostitution, less than honorable discharge, etc.)	8	20%	34	29%	> 0.20

\*Categories not mutually exclusive

# Contaminated Herbal Tea as a Potential Source of Chronic Arsenic Poisoning

James S. Parsons, M.D.

**ABSTRACT** When chronic arsenic intoxication is discovered, it is often difficult to distinguish between intentional poisoning and accidental exposure. Arsenicals are widely used by industry in the production of paints and dyes, porcelains and ceramics, insecticides and herbicides, the processing of leather and the cleaning and manufacturing of specific metals. Their use in the medical armamentarium dates back for centuries. More recently, solutions containing arsenic were used quite commonly in the treatment of asthma and chronic skin disorders, and arsphenamine is often used to treat syphilis. This case report calls attention to a new potential source of chronic arsenic intoxication through ingestion of a home-prepared herbal tea.

## CASE REPORT

A 54-year-old construction crew foreman was hospitalized on June 19, 1978, for progressive paresthesias and limb weakness. He described an eight-month course of initial numbness and burning involving the hands and the soles of the feet. As these symptoms increased, progressive muscle weakness required him to stop working and ultimately he needed crutches for ambulation.

The patient described two episodes of acute gastroenteritis with nausea, diarrhea and prostration. These spontaneously resolved over several weeks.

On examination the patient was found to have a generalized xerosis with scaling of the palms and soles and nail findings suggesting Mee's lines.

Neurologic examination disclosed a stocking and glove sensory

deficit and a marked motor weakness (distal somewhat worse than proximal muscle groups), so severe that the patient could not stand unassisted. Reflexes were absent except for trace triceps reflex; both plantar reflexes were flexor.

Laboratory data revealed normal serum electrolytes; normal liver function; normal renal function (BUN 15 mg/dl, serum creatinine 1.1 mg/dl); the serum calcium was 9.8 mg/dl and phosphorus 3.2 mg/dl. Thyroid function was normal, as was serum protein electrophoresis.

Hematocrit was 37.8 vol%, the hemoglobin 11.3 g/dl, with normochromic, normocytic indices. Reticulocyte production index was 3.8% (absolute 202,137). White blood cell count was 2,300 mm<sup>3</sup> with 6 bands, 12 segmented forms, 11 eosinophils, 2 basophils and 63 lymphocytes. Platelets were 392,000 mm<sup>3</sup>. Bone marrow examination revealed no maturation abnormalities, but there was an absolute decrease in mature myeloid elements and erythroid hyperplasia.

Lumbar puncture on the day of admission revealed a normal opening pressure; examination of the cerebrospinal fluid disclosed 6 mononuclear cells, no red cells, protein 58 mg/dl, and glucose 58 mg/dl (serum 119 mg/dl). All stains and cultures of the spinal fluid were negative.

Nerve conduction studies showed mildly decreased velocities in the ulnar and peroneal nerves and a moderately decreased velocity in the median nerve. Motor amplitudes were diminished and dropped dramatically with more proximal stimulation. Electromyographic studies showed a decreased number of motor units under voluntary

control, most evident in the distal groups.

Arsenic intoxication was suspected and an initial 24 hour urine contained mercury 3 µg/l (normal < 30 µg/l); lead 14 µg/l (normal < 80 µg/l), and arsenic 1,950 µg/l (normal < 100 µg/l). Multiple specimens contained between 597 and 920 µg/l. Nail clippings contained arsenic in the concentration of 6,000 µg/100 g (normal 20-60 µg/100 g). A thorough investigation by the Fulton County (Georgia) Health Department revealed no potential source of exposure at the patient's home or work sites. Home water testing for arsenic was negative. All family members tested (wife and four children) showed no urine arsenic concentration > 17 µg/l. In a review of the history for any possible exposure the patient revealed that he had prepared and consumed between 32 ounces to 48 ounces of an herbal tea made of "yellow root" per day for two years.

A sample of his own "tea" prepared at home contained 11 µg/l of arsenic. "Tea" was prepared from 10 samples of "yellow root" purchased at the municipal market. Each batch contained between 15 and 68 µg/l of arsenic. Four of the samples had 35 µg/l which were considered significant. There was no appreciable difference in arsenic content of samples prepared in the aluminum cooking vessel used by the patient and the same samples prepared in glass beakers.

## DISCUSSION

Chronic arsenical intoxication commonly presents as a mild to severe sensorimotor polyneuropathy with weakness and often painful paresthesias in a stocking and glove



distribution.<sup>1</sup> Others<sup>2</sup> have described neurological involvement consisting of a toxic encephalopathy as well as rarely an optic nerve damage. Skin findings may be herpetiform lesions involving the trunk or hyperpigmented keratotic lesions confined to the palms and soles. Appearance of transverse Mee's lines in the nails are temporally related to ingestion. Hematologic abnormalities through bone marrow suppression can result in leukopenia with relative eosinophilia, anemia, thrombocytopenia and basophilic stippling.<sup>3</sup>

Acute ingestion is usually characterized by colicky abdominal pain, vomiting and diarrhea, occasionally with bloody stools. Acute renal failure, dehydration, exhaustion, shock and death have all been described.

"Yellow root" in several forms have been used since antiquity for its curative properties. It was used by American Indians and apparently concomitant use by early settlers in North America. More recently it has been used quite commonly in Atlanta for control of such chronic diseases as diabetes mellitus and hypertension. It may be used alone, or as an adjunct to more conventional medical therapy. It is available in small grocery stores as well as farmer's markets throughout the city.

Identification of the exact species from roots alone is difficult, but the most common variety seems to be *Xanthorrhiza simplicissima*. It is indigenous to the east coast of North America and is commonly found along stream banks of the more mountainous terrain. Another species of the Ranunculaceae fam-

ily, *Hydrastis canadensis*, is also identified as "yellow root" but it is usually called by its more common name "golden-seal." The *Xanthorrhiza* species has also been called "parsley-leaved yellow root," "Southern yellow root," "yellow wart," and "shrub yellow root."<sup>4</sup> Through the medical, botanical and pharmaceutical literature the generic name appears as *Xanthorhiza*, *Xanthorrhiza* and *Zanthorhiza*. The species has been designated *simplicissima*, although it frequently appears in medical literature as *apiifolia*.

Alkaloids derived from the plant have been identified as jatrorrhizine, magnoflorine, and berberine, the last being in highest concentration and most active pharmacologically.<sup>5</sup> Berberine has been shown in animals to produce transient falls of blood pressure<sup>5</sup> and to antagonize acetylcholine and histamine.<sup>6</sup>

Plasma emission spectography was conducted on the plant, *Xanthorrhiza simplicissima*, at the University of Georgia soil and plant testing laboratory in Athens in August, 1977. This permitted the identification of many elements with phosphorus, potassium, calcium and magnesium found in highest concentration. Arsenic was not found as a natural constituent and thus an inherent concentrating ability of the plant was excluded.

It is inferred from the data available that at least random sampling of supplies of "yellow root" provided a potentially significant level of arsenic in the prepared "tea," and this probably represents accidental contamination of the soil and streams in the plants' natural

habitat. Possibly severe contamination could yield crops of "yellow root" with exceptionally high enough levels that in significant amounts acute arsenic poisoning could occur. It is believed that this patient's arsenic intoxication is secondary to chronic consumption of moderate levels of arsenic-containing "tea" with intermittent consumption of severely contaminated "tea" coinciding with the patient's Mee's lines and clinical history of episodic gastrointestinal symptoms.

With the recent increasing interest in "natural" foods as well as the popularity of outdoor camping and "back-packing" it is stressed that one be quite familiar with the inherent dangers and safety of plants, roots and berries before consumption. However, even with a keen knowledge of edible plants, industrial and agricultural contamination of such is not always evident. It is apparent that until full investigation is completed into the source of erratic but potentially hazardous contamination of this plant, the medical community should be aware of the dangerous possibilities which might arise in those who consume "wild" plants in general and those who use "yellow root tea" specifically.

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#### Tetanus

The master of a large ship mashed the index finger of his right hand with the anchor. Seven days later a somewhat foul discharge appeared; then trouble with his tongue — he complained he could not speak properly. The presence of tetanus was diagnosed, his jaws became pressed together, his teeth were locked, then symptoms appeared in his neck: on the third day opisthotonos appeared with sweating. Six days after the diagnosis was made he died. — Hippocrates.



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The NORTH CAROLINA MEDICAL JOURNAL welcomes the contribution of original articles — scientific, historic and editorial — provided that they have neither been published previously nor have they been simultaneously submitted for publication in other medical periodicals. Papers concerned with all aspects of the practice of medicine in North Carolina are particularly solicited.

In addition, in view of "The Copyright Revision Act of 1976," effective Jan. 1, 1979, letters of transmission to the editor should contain the following language: "In consideration of the North Carolina Medical Society's taking action in reviewing and editing my submission, the author(s) undersigned hereby transfers, assigns, or otherwise conveys all copyright ownership to the North Carolina Medical Society in the event that such work is published in the NORTH CAROLINA MEDICAL JOURNAL." We regret that transmittal letters not containing the foregoing language signed by ALL authors of the submission will necessitate delay in review of the manuscript.

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Two copies of the complete manuscript including legends, tables, references and glossy prints should be submitted. All copies should be typed on standard size paper, double-spaced with margins at least 3 cm; xerographic reproductions are preferred to carbon. A covering letter indicating the author responsible for correspondence and his address should accompany the manuscript.

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These should be provided on a separate page in duplicate giving the full title of the paper; a shorter title for the table of contents; the author(s) first name(s), initial(s) and academic degree(s); the name of the department and institution where the work was done and the name and address of the author to whom requests for reprints should be directed.

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On a separate sheet, a double-spaced abstract of not more than 150 words should be submitted in duplicate. This should be factual telling of what was done, what was observed and what was concluded. A separate summary should not be provided.

### Abbreviations and Symbols

Usage recommended in *STYLE MANUAL FOR BIOLOGICAL JOURNALS* (3rd ed., 1972) should be

followed insofar as possible. The first time an abbreviation is used, it should be explained. Generic names should be employed for drugs; if the author wishes to identify an agent by trade name, it should be inserted parenthetically at the first use of the term. Units of measurement should generally be metric including height and weight.

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References should be double-spaced and on a separate page(s) and should be numbered consecutively as they are cited in the text. The citations should conform to the style of the INDEX MEDICUS and the publications of the American Medical Association. The inclusive pages should be given but the number and day or month of the cited issue should not be included. Author(s) surname and initial(s); title and subtitle of the paper; journal or book in which it appeared; volume number, inclusive pagination and year for journal citation; title of book, editor if a collection, edition other than first, city, publisher, year and page of specific reference for books should be indicated. For example:

1. Villant GE, Sobowale NC, McArthur C: Some psychologic vulnerabilities of physicians. *N Engl J Med* 287:372-375, 1972.
2. Fox RC: *The Student-Physician: Introductory Studies in the Sociology of Medical Education*. Edited by Merton RK. Cambridge, Harvard University Press, 1957, pp 207-241.
3. Sniscak M: *Cumulative Cumulus Therapy*. Los Angeles, Exotic and Esoteric Press, 1984, p 81.

Unpublished data and personal communications should be alluded to in footnotes. Footnotes, however, should be limited and separated from the text by a line.

### Tables and Illustrations

These should be typed in double-space on separate sheets. Arabic numerals should be used and a legend for each table submitted. Tables should be as succinct as possible. Lines should be omitted and symbols for units given with the column heading. Other symbols should be explained at the bottom of the table. Illustrations should be glossy, black and white prints or line drawings. The name of the first author, the figure number and the top of the figure should be written lightly in pencil on the back of each print. Legends are to be typed consecutively for each figure on a separate sheet. If illustrations have appeared elsewhere, per-

mission for reproduction from both the author and publisher must accompany the manuscript.

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All manuscripts are read by the editor. Most of them are also reviewed by members of the editorial board or other referees. Constructive comments by these reviewers will be returned to authors who will usually be notified within one month of receipt of the manuscript of editorial action. Editorial correspondence should be directed to:

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### CLINICAL PHARMACY — ONE NORTH CAROLINA PERSPECTIVE

Clinical pharmacy is centered on management of a patient's overall drug therapy rather than the distribution of the specific drugs taken. This concept developed in response to the need for professionals knowledgeable about drug therapy and applied

therapeutics who could contribute by fostering more effective, safer and cost effective drug therapy.

Most clinical pharmacy practitioners have advanced degrees, either a Doctor of Pharmacy (Pharm.D.) or a Clinical Master of Science. Graduates of both training programs generally complete nationally accredited residencies and/or clinical fellowships. This training process emphasizes rational therapeutics, drug literature evaluation, clinical research and clinical pharmacokinetics. The clinical pharmacy practitioner is one trained to look at therapeutics as a science as well as an art. It is this emphasis that allows him to make a valuable contribution to patient care which complements the physician's primary emphasis on the disease process.

I believe that a partnership between clinical pharmacy and medicine can contribute significantly to better patient care by:

- Making time available for consultations on problems related to drug therapy and drug interactions.<sup>1-9</sup>
- Facilitating continuing education on clinical therapeutics.<sup>1-8</sup>
- Providing assistance and consultation about drug

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therapy at discharge of hospital and nursing home patients.<sup>7-8</sup>

d. Encouraging financial savings through regular drug audits and utilization reviews.<sup>4-6, 10-12</sup>

e. Attending hospital rounds for immediate consultations.<sup>3, 9-12</sup>

f. Improving patients' attitudes toward medical services.<sup>13</sup>

In the last five years, practice linkages between clinical pharmacists and physicians have developed in several locations across North Carolina, primarily in hospitals and ambulatory clinics associated with the nine Area Health Education Centers (AHEC), hospitals affiliated with medical schools, and several primary care clinics. The services offered by clinical pharmacists may vary but, in general, will encompass those previously described. As an example, my practice involves the provision of information concerning drug therapy, product selection, pharmacokinetics and compliance during morning rounds and, upon request by the attending physician, consultations for both hospitalized and ambulatory patients.

One may expect that clinical pharmacy in North Carolina will continue to develop and that additional practices will be established as has occurred in other states, including South Carolina, where clinical pharmacists have practiced with physicians in the Family Practice Center at the Medical University of South Carolina in Charleston. From this beginning, relationships between clinical pharmacists and physicians have developed so that clinical pharmacy services have been included in several private family practice centers<sup>14,15</sup> and in both non-university and university hospitals.<sup>16</sup>

Given the increasing complexity of drug therapy, cost and risk of iatrogenic disease (4.1% of hospital admissions are related to adverse drug reactions),<sup>17</sup> it may become increasingly important for physicians to seek the services of a clinical pharmacist as a consultant, not a physician extender.

Depending upon local need, the clinical pharmacist's practice can be based in a local hospital or as a part of a physician practice. The financial arrangements for the reimbursement of a clinical pharmacist have been carried out in a hospital setting where a number of models already exist.<sup>18,19</sup> However, the situation for reimbursement in an ambulatory practice is not quite as clear-cut. The experience in South Carolina would indicate that reimbursement for clinical pharmacy services in ambulatory care settings is a solvable problem.<sup>14,15</sup>

Pharmacy and medicine have historically had natural alliances. With an increasing focus on the patient rather than the drug product, clinical pharmacists seek to strengthen the alliances through effective communication and significant contributions to the clinical care of patients. Opportunities for expanded interaction are now presenting themselves in North Carolina. The two disciplines should pledge now that the decade of the '80s will see the emergence of true professional cooperation and support.

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The opinions expressed here are those of the author and are not intended to represent those of the North Carolina Area Health Education Centers Program, the Area L AHEC, the School of Pharmacy, or the University of North Carolina, Chapel Hill, North Carolina.

The author wishes to express his appreciation to his colleagues in Tarboro and across North Carolina for review of this work.

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## ON CONSENSUS

In September 1977 the National Institutes of Health initiated consensus development conferences to bring together experts who would decide what is known, what should be known and what appears to be the most effective approach to a variety of medical problems. Attention has been directed to diagnostic procedures, drugs and devices. In short, experts are to reach consensus and to inform the medical multitude of their deliberations by publishing their conclusions in medical journals. More recently a report of a consensus conference was submitted to the *NORTH CAROLINA MEDICAL JOURNAL* for consideration for publication. Because the report was not particularly well written, gave no references for interested readers and offered no tables or diagrams, which would have been

extremely helpful, the report was returned with a request for appropriate revision. NIH's response was pained; after all they were doing this for the physicians of America and the *British Medical Journal*, the *Annals of Internal Medicine* and publications of the American Medical Association found their efforts acceptable.

Our judgment may have been wrong. Physicians of America, particularly readers of state medical journals, may be in need of reports about consensus. We did indicate we would be willing to publish some reports, but that we intended to maintain our objectivity about the matter. In retrospect, we should perhaps have considered the reports as simple handouts and assessed them as such. However, the majority is not always right and consensus cannot always be maintained. Remember when chocolate was bad for acne, that George Washington was bled by his physicians because of his pharyngitis and when Lyndon Johnson assumed consensus about his aims in Vietnam? NIH's efforts, nobly conceived though they be, smack overmuch of public relations hype and of a daddy-knows-best attitude ill suited to scientific endeavor.

J.H.F.

# Correspondence

## CLINICAL CENTER STUDY OF YOUNG PATIENTS WITH MALIGNANCIES

To the Editor:

The cooperation of physicians is requested in the referral of young patients with malignancies for studies being conducted by the National Cancer Institute, Pediatric Oncology Branch, at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

Patients with acute leukemia, neuroblastoma, rhabdomyosarcoma, Ewing's sarcoma, osteogenic sarcoma, and non-Hodgkin's malignant lymphoma (especially Burkitt's lymphoma) are eligible for these studies. Patients selected for the program will generally have received no previous definitive therapy. Clinical trials involve evaluation of new combinations of chemotherapy, radiotherapy, surgery and biologic response modifiers. All patients accepted for admission to this branch may also be enrolled in studies of

optimal supportive care techniques (e.g., autologous bone marrow infusion, platelet and granulocyte transfusion, and laminar air flow protective isolation). Patients may be admitted with any extent (stage) of their disease, except in the case of neuroblastoma and rhabdomyosarcoma studies which are restricted to extensive disease.

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# YOU

## The Telephone Manager

By Karen Zupko, Director  
Department of Practice Management  
Division of Medical Practice  
American Medical Association

Did you ever stop to realize that the receptionist who answers the telephone is your office "personality" to the dozens of patients who call each day? She is.

And, did you know that ninety percent of all new patients phone an office and talk to her before ever being seen by you? They do.

But, your receptionist is not only important from a public relations standpoint; she can greatly affect the efficiency of your practice as well. For example, you could see more patients with fewer interruptions if your receptionist effectively screens calls, takes complete messages and holds them for "call backs."

But to do this well, without offending patients, your receptionist needs to be trained. Answering the telephone in your office is not as simple as answering calls at a retail establishment. And, while few physicians delegate even the most minor of clinical tasks to untrained personnel, most physicians routinely assign telephone answering (which has the potential for an even greater impact on the practice) with little or no instruction, or follow-up.

Take emergency calls for example. It's important that your medical assis-

tant-receptionist *know* what *your* concept of an emergency is; when such a call should be put through to you immediately and what to tell a patient if you're not in the office when the call comes in.

Your receptionist should know how to communicate to patients calling in with a minor problem that you are concerned and will call back. She shouldn't brush patients off with, "Well, he's awfully *busy* right now and I couldn't interrupt him with such a small problem. I'll try to have him call you." All patients consider their problems to be important, as you well know. Putting off patients hastily usually will mean repeated calls to ask if you're still busy — these calls only increase the already heavy telephone load and tax the patience of your harried receptionist.

Handling emergency calls and "call backs" are only a few of the situations your receptionist should be able to handle. What about the "no-show" patient calling for another appointment? Should your receptionist mention the previously missed appointment and, if so, how should she bring up the topic? How about requests for medical information from insurance representatives and attorneys? Does she know who your *real* friends are and what business associates to put through immediately? More than her common sense is re-

quired to deal with these situations. She must know what *YOUR* common sense dictates and what the medico-legal implications of her decisions are.

The AMA realizes the importance of medical assistant and receptionist training in this area and has developed a course: "YOU, the Telephone Manager," which has been conducted for over 4,000 medical office personnel nationwide, in cooperation with 45 county medical societies. All of these situations and more are discussed in depth. One of the brochures used in the course is available to individual physicians, "Talking With Patients," which outlines some of the conversational "dos" and "don'ts" for receptionists to follow.

There are a few things you can do, too, to "tame the office telephone:"

1. Don't just tell patients, "Call me anytime." Tell them to call, but explain that your office operates on a call-back system unless it is a real emergency and to cooperate by leaving a message.

2. Encourage your patients to communicate their medical problem to your assistant, so she can leave you a complete message and have their charts ready for you to consult when you return their call.

3. Return your calls! And try not to make call-backs at 5 P.M. If the patient does have a serious problem that you feel needs attention you'll have to attend that problem at an inconvenient time for you, and your patient may have been needlessly suffering all day with a problem they called about at 10 A.M.

You can try a call-back system most consultants recommend: Set aside several 10 or 15 minute call-back periods throughout the day. Your receptionist can dial one patient and have them on the line while you're talking to another. Or, make a few calls after seeing patients in two or three exam rooms to break up the routine. And, your receptionist will be able to tell patients,

"You can expect the doctor's call within the hour, will you still be at this number and will you please keep your line free?" The benefits here are obvious: you can eliminate some calls to endlessly ringing numbers with no one home and calls to patients who are phoning friends and relatives about their aches and pains resulting in busy signals ad infinitum.

4. Have an unlisted number in the office — for your use only. You can use this line to make outgoing calls to patients, physicians, the hospital, etc.

5. Be sure your telephone equipment is up-to-date. Patients may not tell you, but your receptionist likely receives repeated complaints of, "I have been trying to get through to you for the last hour . . ." Most telephone companies will do a free "busy signal" study to determine if your office has enough incoming lines. They'll be able to give you an exact count of how many busy signals come from your office number each day for a week long period of time. This study can take the guesswork out of ordering expensive equipment you don't need. By trying some of these suggestions you will begin to manage and control the office telephone — which now may be managing and controlling you.

To order, "Talking With Patients," OP-450; \$0.30; send remittance to Order Department, American Medical Association, P.O. Box 821, Monroe, Wisconsin 53566.

For more serious study, you may wish to order "Handling Patient Telephone Calls Effectively," OP-081; \$15, at the same AMA Order Department address above. A must for every new medical office receptionist and a good review for staff with years on the job. The cassette tape and accompanying worksheets demonstrate through role-playing how to deal with patients who want medical advice, requests for medical information, irate patients and emergencies.

Payment for the above must accompany your order.

# In G.I. therapy



## Adjunctive Librax

Each capsule contains  
5 mg cimetidine HCl  
and 2.5 mg clidinium Br

### antianxiety/antisecretory/antispasmodic

for adjunctive therapy of duodenal ulcer\*  
and irritable bowel syndrome\*

## Librax

For complete prescribing information, consult the summary of which follows:

**Indications:** Based on a review of this drug by the National Academy of Sciences—National Research Council and other information, FDA has classified the indications as follows:

possibly effective, as adjunctive therapy in the treatment of peptic ulcer and in the treatment of the irritable bowel syndrome; irritable colon, spastic colon, mucous colitis and acute enterocolitis. Final classification of the less-than-effective in indications requires further investigation.

**Contraindications:** Glaucoma, prostatic hypertrophy, benign bladder neck obstruction, hypersensitivity to cimetidine HCl and/or clidinium Bromide.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Physical and psychological dependence rarely reported on recommended doses, but use caution in administering Librax (cimetidine HCl/cimidinium Br) to known addicts.

Dependent individuals or those who might increase dosage, withdrawal symptoms (including convulsions) reported following discontinuation of the drug.

**Usage in Pregnancy:** Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.

As with all anticholinergics, inhibition of lactation may occur.

**Precautions:** In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, over-sedation, confusion (in more than 2 capsules/day initially, increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropic seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impairing depression, suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug.

and oral antacids; causal relationship not established.

**Adverse Reactions:** No side effects or manifestations not seen with either compound alone reported with Librax. When cimetidine HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated; avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, orthostatic symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction. Changes in EEG patterns may appear during and after treatment. Blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with cimetidine HCl, making careful blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, i.e., dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low-sodium diets.


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# Acute pain is no laughing matter.

## The first prescription for the first days of acute pain **Empirin® $\bar{c}$ Codeine #**

Each tablet contains: aspirin, 325 mg; plus codeine phosphate, 30 mg, (Warning — may be habit-forming). 

**For the millions of patients who need the potency of aspirin and codeine for their acute pain.**

The pain of fractures, strains, sprains, burns and wounds is at its peak during the first three to four days following trauma. The potent action of Empirin  $\bar{c}$  Codeine begins to work within 15 minutes of oral administration, an important advantage during this acute pain period. Empirin  $\bar{c}$  Codeine has unique bi-level action to attack pain at two critical points: peripherally at the site of injury and centrally at the site of pain awareness.

For the most effective dosage in treating acute pain, begin with... two tablets of Empirin  $\bar{c}$  Codeine #2 or #3, every four hours. Titrate downward as pain subsides.

### EMPIRIN® with Codeine

**DESCRIPTION:** Each tablet contains aspirin (acetylsalicylic acid) 325 mg plus codeine phosphate in one of the following strengths: No. 2 — 15 mg, No. 3 — 30 mg, and No. 4 — 60 mg. (Warning — may be habit-forming.)

**CONTRAINDICATIONS:** Hypersensitivity to aspirin or codeine.

#### WARNINGS:

**Drug dependence:** Empirin with Codeine can produce drug dependence of the morphine type and, therefore, has potential for being abused. Psychic dependence, physical dependence, and tolerance may develop upon repeated administration of this drug and it should be prescribed and administered with the same degree of caution appropriate to the use of other narcotic-containing medications. Like other narcotic-containing medications, the drug is subject to the Federal Controlled Substances Act.

**Use in ambulatory patients:** Empirin with Codeine may impair the mental and/or physical abilities required for performance of potentially hazardous tasks such as driving a car or operating machinery. The patient using this drug should be cautioned accordingly.

**Interaction with other central nervous system (CNS) depressants:** Patients receiving other narcotic analgesics, general anesthetics, phenothiazines, other tranquilizers, sedative-hypnotics, or other CNS depressants (including alcohol) concomitantly with Empirin with Codeine may exhibit an additive CNS depression. When such combined therapy is contemplated, the dose of one or both agents should be reduced.

**Use in pregnancy:** Safe use in pregnancy has not been established relative to possible adverse effects on fetal development. Therefore, Empirin with Codeine should not be used in pregnant women unless, in the judgment of the physician, the potential benefits outweigh the possible hazards.

#### PRECAUTIONS:

**Head injury and increased intracranial pressure:** The respiratory depressant effects of narcotics and their capacity to elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions, a pre-existing increase in intracranial pressure. Furthermore, narcotics produce adverse reactions which may obscure the clinical course of patients with head injuries.

**Acute abdominal conditions:** The administration of Empirin with Codeine or other narcotics may obscure the diagnostic clinical course in patients with acute abdominal conditions.

**Allergic:** Precautions should be taken in administering salicylates to persons with known allergies; patients with polyps are more likely to be hypersensitive to aspirin.

**Special risk patients:** Empirin with Codeine should be given with caution to certain patients such as the elderly, debilitated, and those with severe impairment of hepatic or renal function, hypothyroidism, Addison's disease, prostatic hypertrophy or urethral stricture, peptic ulcer, or coagulation disorders.

**ADVERSE REACTIONS:** The most frequently observed adverse reactions to codeine include light-headedness, dizziness, sedation, nausea and vomiting. These effects seem to be more prominent in ambulatory than in nonambulatory patients; some of these adverse reactions may be alleviated if the patient lies down. Other adverse reactions include euphoria, dysphoria, constipation, and pruritus.

The most frequently observed reactions to aspirin include headache, vertigo, ringing in the ears, mental confusion, drowsiness, sweating, thirst, nausea, and vomiting. Occasional patients experience gastric irritation and bleeding with aspirin. Some patients are unable to take salicylates without developing nausea and vomiting. Hypersensitivity may be manifested as a skin rash or even an anaphylactic reaction. With these exceptions, most of the side effects occur after repeated administration of large doses.

**DOSAGE AND ADMINISTRATION:** Dosage should be adjusted according to the severity of the pain and the response of the patient. It may occasionally be necessary to exceed the usual dosage recommended below in cases of more severe pain in those patients who have become tolerant to the analgesic effect of narcotics. Empirin with Codeine is given orally. The adult dose for Empirin with Codeine No. 2 and No. 3 is one or two tablets every four hours as required. The usual adult dose for Empirin with Codeine No. 4 is one tablet every four hours as required.

**DRUG INTERACTIONS:** The CNS depressant effects of Empirin with Codeine may be additive with that of other CNS depressants. See WARNINGS.



**Burroughs Wellcome  
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# *Committees and Organizations*

## **TOXIC ENCOUNTERS OF THE DANGEROUS KIND**

Starting with this issue, we hope to bring you brief articles about clinical toxicology. The emphasis will be on practical topics of value to physicians and other health care personnel in North Carolina.

Prompt emptying of the stomach is indicated in most but not all ingestions of toxic substances. With this in mind, we urge you to instruct all your patients who have preschool children or who have preschool children visit them, particularly grandmothers, to purchase a 1-ounce bottle of Syrup of Ipecac. This inexpensive, efficient, safe emetic should not contain instructions on the label but the patient, parent or grandparent should be instructed to call the physician, the nearest emergency room or the poison center before giving the drug.

The dose for a child over the age of 1 year is

- 1) 15 ml (1 tablespoon) STAT followed by 1 or 2 8-ounce glasses of water.

- 2) If no emesis occurs in 20-30 minutes, the dose may be repeated once.

Children under 1 year of age should receive 10 ml once only, followed by a glass of water. Older children, adolescents or adults who require an emetic can take 30 ml of Syrup of Ipecac per dose for a maximum of two doses.

Relative contraindications to the use of Syrup of Ipecac are:

- 1) Ingestion of most hydrocarbons
- 2) Ingestion of caustics
- 3) Coma
- 4) Patient who has or is convulsing or who has ingested a drug which may cause convulsions, for example, camphorated oil.

Ronald B. Mack, M.D.  
Chairman, Committee on Accidents  
and Poison Prevention  
North Carolina Chapter of the  
American Academy of Pediatrics

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### **Empyema**

Empyema may be recognized in all cases by the following symptoms: In the first place, the fever does not go off, but is slight during the day, and increases at night, and copious sweats supervene, there is a desire to cough, and the patients expectorate nothing worth mentioning, the eyes become hollow, the cheeks have red spots on them, the nails of the hands are bent, the fingers are hot, especially their extremities, there are swellings in the feet, they have no desire for food, and small blisters (phlyctenae) occur over the body. These symptoms attend chronic empyemata, and may be much trusted to; and such as are of short standing are indicated by the same, provided they be accompanied by those signs which occur at the commencement, and if at the same time the patient has some difficulty of breathing. — Hippocrates. The Book of Prognostics.

# Bulletin Board

## NEW MEMBERS of the State Society

Barry, Paul Douglas, MD, (R) #2 Waldron Ct., Greensboro 27408  
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 Buter, Thomas Henry, MD, (ORS) 120 Providence Rd., Charlotte 28207  
 Cefalo, Robert Charles, MD, (OBG) UNC, Div. of Maternal-Fetal Med., Chapel Hill 27514  
 Dickinson, Michael Wright, MD, (GS) 420 N. Center St., Hickory 28601  
 Dixon, Dirk Stancill, Sr., MD, (R) P.O. Box 1814, Lexington 27292  
 Frazier, Mr. Harold Nichols, Jr., (STUDENT) Box 86, Bowman Gray, Winston-Salem 27103  
 Gilbert, David Branson, MD, (IM) 3419-A Melrose Rd., Fayetteville 28304  
 Hall, Bahnson David, MD, (OBG) 417 Wake Dr., Salisbury 28144  
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 Harris, Jeffrey D., MD, (FP) Hwy. 127 N., P.O. Box 6050, Hickory 28601  
 Kandl, Louis Charles, MD, (IM) Rt. #2, Stone Mountain, Albemarle 28001

Lai, Chi-Kwong, MD, (IM) 709 W. End Ave., P.O. Box 1780, Statesville 28677  
 Leidy, Ms. LuAnn (STUDENT) 500 DuPont Rd., Apt. #41, Durham 27705  
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 McNeil, Mr. John Gordon (STUDENT) Apt. 1, 146 Piedmont Ave., Winston-Salem 27101  
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 Romanowski, Mr. Andrew (STUDENT) H-14 Greenbelt Apts., Carrboro 27510  
 Schnell, Maurice Dean, MD, (ORS) 5B Yorktown Square, Greenville 27834  
 Stallworth, John Clement, MD, (OBG) 2711 Randolph Rd. Ste. 305, Charlotte 28207  
 Thomas, Francis Thornton, MD, (GS) ECU Dept. of Surgery, Greenville 27834  
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 Vukoson, Matthew Bruce, MD, (FP) UNC Student Health Service, Chapel Hill 27514  
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## WHAT? WHEN? WHERE? In Continuing Education

Please note: 1. The Continuing Medical Education Programs at Bowman Gray, Duke, East Carolina and UNC Schools of Medicine, Dorothea Dix, and Burroughs Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or cosponsored by these schools automatically qualify for AMA Category I credit toward the AMA's Physician Recognition Award, and for North Carolina Medical Society Category A credit. Where AAFP credit has been requested or obtained, this also is indicated.

2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information".

### January 9-10

4th Annual Outcome Workshop  
 Place: UNC School of Medicine  
 Fee: \$500  
 Credit: 13 hours  
 For Information: William B. Wood, M.D., (919) 933-2118

### January 10

N.C. Chapter, American College of Physicians  
 Place: UNC School of Medicine  
 Fee: \$50



Credit: 6 hours  
For Information: William B. Wood, M.D., UNC School of Medicine, (919) 933-2118

#### January 14

"Perspectives in Clinical Immunology"  
Place: Pitt County Memorial Hospital, Greenville  
Fee: \$15  
Credit: 3 hours  
For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville 27834

#### January 21

"Wills, Trusts, Estate Planning for Physicians and Spouses"  
Place: Carolina Trace Country Club, Sanford  
Fee: \$6  
Credit: 3½ hours  
For Information: R. S. Cline, M.D., Sanford Medical Group, 555 Carthage Street, Sanford 27330. (919) 775-2111, ext. 219.

#### January 21-23

N.C. Alcoholism Research Authority  
Place: Sheraton-Crabtree, Raleigh  
Fee: \$50  
Credit: 13 hours  
For Information: William B. Wood, M.D., UNC School of Medicine (919) 933-2118

#### January 24

"Pulmonary Disease Update"  
Place: Pitt County Memorial Hospital, Greenville  
Fee: \$30  
Credit: 6 hours  
For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville 27834

#### January 30-31

Clinical Urology  
Place: Bowman Gray School of Medicine  
Fee: \$100  
Credit: 10 hours  
For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine, 27103

#### February 11

"Stress As A Factor in Illness"  
Place: Pitt County Memorial Hospital, Greenville  
Fee: \$15  
Credit: 3 hours  
For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville, N.C. 27834

#### March 11

"Current Clinical Problems in Family Practice"  
Place: Pitt County Memorial Hospital, Greenville  
Fee: \$15  
Credit: 3 hours  
For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville, N.C. 27834

#### March 11-14

Internal Medicine 1981  
Place: Berryhill Hall, UNC School of Medicine  
Fee: \$150  
Credit: 25 hours  
For Information: William B. Wood, M.D., UNC School of Medicine, (919) 933-2118

#### March 16-20

5th Annual Family Medicine Review Course  
Place: Bowman Gray School of Medicine  
Fee: \$275  
Credit: 40 hours  
For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine, 27103

#### March 26-27

Physician Extenders  
Place: Bowman Gray School of Medicine

Credit: 10 hours  
For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine, 27103

#### March 27-28

Frank R. Lock Symposium in Obstetrics and Gynecology  
Place: Bowman Gray School of Medicine  
Fee: \$150  
Credit: 9 hours  
For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine

The items listed in the above column are for the six months immediately following the month of publication. Requests for listing should be received by "WHAT? WHEN? WHERE?", P.O. Box 27167, Raleigh 27611, by the 10th of the month prior to the month in which they are to appear. A "Request for Listing" form is available on request.

## AUXILIARY TO THE NORTH CAROLINA MEDICAL SOCIETY

### MEDICINE IN OLD SALEM: THE VIERLING HOUSE

On April 3, 1980, Old Salem, Inc., in Winston-Salem opened to the public the Dr. Samuel Benjamin Vierling House and Apothecary Shop. It was a pleasing bit of irony that the first visitor to the building was

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Dr. John Myracle, a physician from Lewisville, North Carolina.

The addition of this museum building has provided the Old Salem interpretive staff with the opportunity to explain some of the rigors and changes in late 18th and early 19th century life in backcountry North Carolina. Heretofore, the trades and crafts had been the primary focus of interpretation in Old Salem, but now the treatment of disease and the maintenance of health by the physician and surgeon, Dr. Vierling, also can be discussed. His reputation as a successful surgeon brought sick patients to Salem from surrounding towns and states for treatment; they recuperated in private homes under Dr. Vierling's care. This capable man, who trained in Berlin in the 1780s and arrived in Salem from Germany in 1790, greatly influenced the community life in addition to being the surgeon, physician and apothecary.

In 1802 he built what was then the largest dwelling in Salem on the highest spot in town. The high ceilings, large rooms, vaulted cellar and painted exterior details are in obvious contrast to the other exhibit buildings in the historic district.

For many years Dr. Vierling successfully treated his loyal patients and nursed many individuals through various epidemics. In 1817, however, he himself succumbed to a fever, leaving behind his wife and eight children. Because he died intestate, an inventory of his estate had to be taken; it lists household furnishings, books by title, medical instruments and apothecary equipment as well as more than 200 medicines. Except for a few specific pieces, presumably kept for family use, each item was sold at auction. This inventory and the auction price list, combined with the mass of documentary material about medicine in Salem and the Vierling family, have helped to provide insights into the interests, tastes, life and work of the man Samuel Benjamin Vierling. Great care was taken to follow this inventory closely in the furnishing of the dwelling spaces and in the re-creation of the apothecary shop.

The cellar, first floor and one second-floor bedroom are open to the public. In two other second-floor rooms, an extensive permanent exhibit, explaining the many aspects of the medical practice of the Moravians in North Carolina, is being prepared for opening in 1981-82.

Dr. Vierling also had a free-standing bake-oven in his yard, which one of the later occupants of the house expanded into a bake/wash house in 1831. This charming building is open during the summer months for demonstrations of fireplace cooking, candle dipping and apple drying.

A visit to the Vierling House provides an experience which differs from that of a visit to any other exhibit building in Old Salem because here the visitor sees the living and working environment of the professional man and his family in Salem. Even more important, the interpretation of medical practices and treatments, and the exhibition of an important collection of medical instruments, books and the objects and furnishings

## CYCLAPEN®-W (cyclacillin)

### Indications

Cyclacillin has less *in vitro* activity than other drugs in the ampicillin class and its use should be confined to these indications. Treatment of the following infections:

#### RESPIRATORY TRACT

Tonsillitis and pharyngitis caused by Group A beta-hemolytic streptococci  
Bronchitis and pneumonia caused by *S. pneumoniae* (formerly *D. pneumoniae*)  
Otitis media caused by *S. pneumoniae* (formerly *D. pneumoniae*) and *H. influenzae*  
Acute exacerbation of chronic bronchitis caused by *H. influenzae*

\*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*.

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, non-penicillinase producers.

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing.

Contraindications Contraindicated in individuals with history of an allergic reaction to penicillins.

Warnings Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, careful inquiry about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS. It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.

Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reported.

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

Cyclacillin is not indicated in children under 2 months of age.

Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

Dosage (Give in equally spaced doses)

INFECTION	ADULTS	CHILDREN*
Respiratory Tract		
Tonsillitis & Pharyngitis	250 mg q.i.d.	body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d.
Bronchitis and Pneumonia		
Mild or Moderate Infections	250 mg q.i.d.	50 mg/kg/day q.i.d.
Chronic Infections	500 mg q.i.d.	100 mg/kg/day q.i.d.
Otitis Media	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day† q.i.d.
Skin & Skin Structures	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day† q.i.d.
Urinary Tract	500 mg q.i.d.	100 mg/kg/day

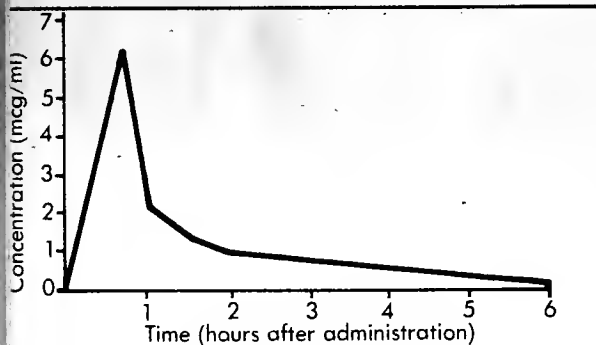
\*Dosage should not result in a dose higher than that for adults.

†depending on severity

Half the dose  
is absorbed in 9 minutes!  
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Mean blood levels in mcg/ml after 250 mg cyclacillin single oral dose



Rapid, virtually complete absorption from GI tract  
Exceptionally high peak blood levels – 3 times greater than ampicillin (Clinical efficacy may not always correlate with blood levels.)  
Rapidly excreted unchanged in urine – 1½ times faster than ampicillin

based on  $T^{1/2}$  values for single oral doses of 500 mg cyclacillin tablet and 500 mg ampicillin capsule. Data on file, Wyeth Laboratories.

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Fewer episodes of diarrhea and rash than with ampicillin in studies to date.

Efficacy proven in the treatment of bronchitis, pneumonia, and upper respiratory infections.†

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†Due to susceptible organisms.

See important information on facing page.

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News Notes from the

**UNIVERSITY OF NORTH CAROLINA-  
CHAPEL HILL SCHOOL OF MEDICINE  
AND  
NORTH CAROLINA MEMORIAL HOSPITAL**

Dr. Kenneth M. Brinkhous, Alumni Distinguished professor of pathology, has been elected to senior membership in the National Academy of Sciences' Institute of Medicine.

Brinkhous is considered one of the world's authorities on blood coagulation research. He served for 26 years as chairman of the School of Medicine's Pathology Department and retired in June after 34 years with the university.

Dr. Floyd W. Denny, Alumni Distinguished professor of pediatrics was also elected to membership in the Institute.

A specialist in infectious diseases, Denny recently stepped down as chairman of pediatrics, a position he

held for 20 years, to return to fulltime teaching, research and patient care.

Another of the 42 newly elected institute members is Dr. C. Arden Miller, professor and chairman of maternal and child health in the School of Public Health and professor of pediatrics in the School of Medicine.

Miller serves as chairman of the board of the Alan Guttmacher Institute and is former vice chancellor for health affairs at UNC-CH. He is also a past president of the American Public Health Association.

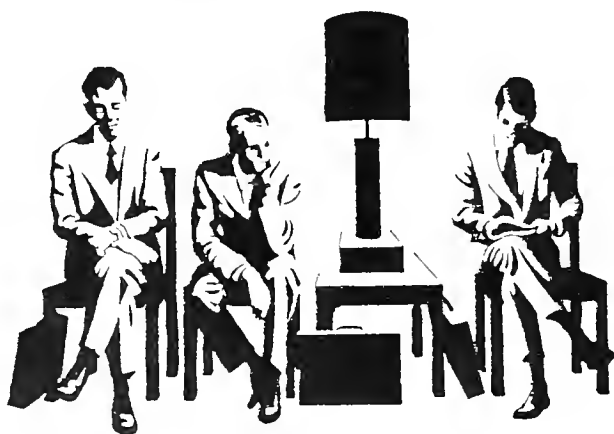
Institute membership, which is limited to 400, is based upon achievement in a professional field and the relevance of such achievement to the problems of medicine. Members also must demonstrate interest, concern and involvement with critical issues in health care, prevention of disease, medical education and research.

Election to the institute is both an honor and a working assignment. With their appointment, members make a commitment to devote significant time to work on institute committees engaged in a broad range of health policy studies.

Other institute members from the School of Medicine include Dr. Christopher C. Fordham III, dean emeritus and university chancellor; Dr. Stuart Bondurant, dean; Dr. Cecil G. Sheps, Taylor Grandy Distinguished professor of social medicine and vice chancellor emeritus of health sciences; and Dr. Carl Gottschalk, Kenan professor of medicine and physiology.

## CHECK YOUR WAITING ROOM.

DO THE BRIEFCASES OUTNUMBER THE  
MEDICAL CASES?



**AIR  
FORCE**  
A great way of life.

You're familiar with them by now — attorneys, accountants and salesmen — all interested in your time and money.

They represent modern business. And, if you're like many physicians, you're probably spending a greater percentage of your time each year as a businessman . . . at the expense of your practice.

We provide well staffed, modern facilities, an excellent program of compensation, and opportunities for professional growth and specialization.

Equally important, we provide an environment in which you may practice medicine. And that's what your life is about.

Contact USAF Health Professions Recruiter, 1100 Navaho Drive, Suite GL-1, Raleigh, N.C. 27604. Call Collect (919) 755-4134.

**AIR FORCE. HEALTH CARE AT ITS BEST.**

370E036

The North Carolina Jaycee Burn Center, one of only 14 comprehensive burn care facilities in the country was dedicated November 23 in Chapel Hill. The 23-bed facility will be housed in a new support tower at North Carolina Memorial Hospital. The first patients will be moved into the facility shortly after the first of the year.

With a staff of close to 200, the center is expected to serve as a burn treatment, research and education center for a larger portion of the southeastern United States.

In addition to the 18,000 square feet of space dedicated to the burn center on the fifth floor of the new support tower, there is an operating room set aside for burn-related surgery.

\* \* \*

Dr. Don W. Powell, professor of medicine, participated in the Scientific Workshop on Drug Development and Management of Acute Diarrheas for the World Health Organization Sept. 14-20 in Geneva, Switzerland.

\* \* \*

Dr. John T. Sessions Jr., professor of medicine, joined a group of national leaders in digestive diseases to advise the National Institutes of Arthritis, Metabolism and Digestive Diseases on planning for research Sept. 14 in Bethesda, Md., at the National Institute of Health.

\* \* \*

The Bonner Professorship in Pulmonary and Allied

Diseases has been established at the School of Medicine by a gift from Dr. M. D. "Rabbit" Bonner and Blanche Hanff Bonner of Greensboro.

Dr. Bonner received a certificate in medicine in 1928 from the then two-year medical school in Chapel Hill. Mrs. Bonner graduated from UNC-CH in 1932 with a degree in education.

As a college student at UNC-CH, M.D. Bonner received acclaim as a fast-running football player and acquired his nickname. He also played baseball for four years and was team captain his senior year.

He received his M.D. degree in 1930 from the University of Maryland School of Medicine.

Bonner was medical director and superintendent of the Guilford County Sanatorium at Jamestown from 1934 until the institution closed in 1955. He was in private practice as a pulmonary disease and allergy specialist from 1955 until he retired in December 1978.

Long respected for his leadership in the prevention and treatment of respiratory diseases, Bonner received the medical school's Distinguished Service Award in 1955.

\* \* \*

The creation of the Dr. and Mrs. Sterling A. Barrett Distinguished Professorship of Ophthalmology was recently announced by Dean Stuart Bondurant.

"The chair endowed by Dr. Sterling A. Barrett and Pauline R. Barrett of Waterloo, Iowa, will be of great benefit to future generations of physicians and patients," Bondurant said. "Our Department of Ophthalmology is developing outstanding programs of teaching, patient care and research and is at a state in

**Now, two dosage forms**

**Nalfon®**  
fenoprofen calcium

**300-mg.\* Pulvules® and 600-mg.\* Tablets**



Dista Products Company  
Division of Eli Lilly and Company  
Indianapolis, Indiana 46206

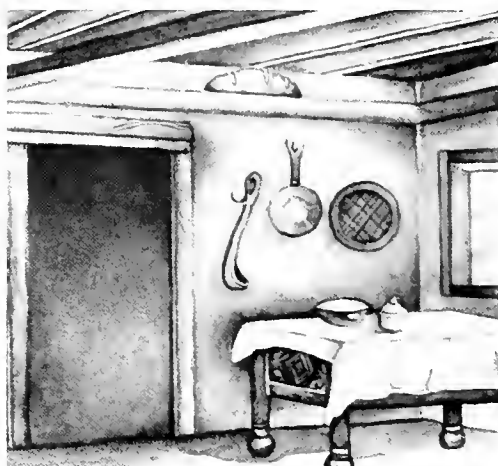
*Additional information available to the profession  
on request.*

\*Present as 345.9 mg. and 691.8 mg. of the calcium salt of fenoprofen dihydrate equivalent to 300 mg. and 600 mg. fenoprofen respectively.

700934

# Yesterday's Folk Remedy:

## A rye loaf in the rafters.



Early in this century in Central Europe, almost every farm family kept a loaf of moldy rye bread on one of the kitchen beams. When any family member was cut or bruised, it was an old custom to cut a thin slice from the outside of the loaf, mix it into a paste with water, and apply it to the wound with a bandage. It was believed that no infection would then result from the cut.<sup>1</sup>



# Today's Tradition: **Tegopen**<sup>®</sup> (cloxacillin sodium)

for the treatment\* of  
known or suspected  
staphylococcal  
infections such as:

- Acute sinusitis
- Furunculosis and carbuncles
- Impetigo
- Secondarily infected dermatitis
- Cellulitis
- Abscesses
- Infected sebaceous cysts

In serious, deep-seated  
staph infections, 500 mg  
q.i.d. dosage is  
recommended.<sup>†</sup>

- Tegopen has been reported active against 96% of *Staphylococcus aureus*.<sup>2</sup>
- 80% of *S aureus* has been reported resistant to amoxicillin and ampicillin.<sup>‡2</sup>
- 88% of *S aureus* has been reported resistant to penicillins G and V.<sup>‡2</sup>
- Staph resistance to erythromycin may develop during a course of therapy.<sup>3</sup>



Available as 500-mg and 250-mg capsules and Oral Solution 125 mg/5 ml.

## **Tegopen**<sup>®</sup> (cloxacillin sodium) Today's Penicillin for Today's Physician

1. Florey HW, Chain E, Heatley NG, et al: *Antibiotics*. London, Oxford University Press, 1949, p 2.
2. Bac-Data Bacteriologic Report, Professional Market Research, 1978-1979. The clinical significance of *in vitro* data is unknown.
3. Erythromycin prescribing information (in *Physicians' Desk Reference*, ed 34 Oradell, NJ, Medical Economics Co, 1980) states that staph resistance may develop during treatment.

See brief summary of prescribing information on an adjoining page.

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\*Note: The choice of Tegopen should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates that the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semisynthetic penicillin.

†In serious, life-threatening infections, oral preparations of the penicillinase-resistant penicillins should not be relied on for initial therapy.

‡Not all isolates may have been tested using both discs.



# Tegopen® (cloxacillin sodium) Capsules and Oral Solution

## Brief Summary of Prescribing Information

For complete information, consult Official Package Circular  
(12) 9/11/75

### INDICATIONS

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected. (See Important Note below.)

Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

### IMPORTANT NOTE

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital. For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing. Such strains of staphylococci have been capable of producing serious disease, in some instances resulting in fatality. Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

### CONTRAINDICATIONS

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.

### WARNING:

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines, and corticosteroids.

Safety for use in pregnancy has not been established.

### PRECAUTIONS

The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy, appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic should be made during long-term therapy.

### ADVERSE REACTIONS

Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

### USUAL DOSAGE:

Adults 250 mg q 6h.

Children 50 mg /Kg /day in equally divided doses q 6h. Children weighing more than 20 Kg should begin the adult dose. Administer on empty stomach for maximum absorption.

**NOTE: INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR ACUTE GLOMERULONEPHRITIS.**

### SUPPLIED

Capsules—250 mg in bottles of 100, 500 mg in bottles of 100  
Oral Solution—125 mg /5 ml in 100 ml and 200 ml bottles.

**BRISTOL®**

Bristol Laboratories  
Division of Bristol-Myers Company  
Syracuse, New York 13201

its development at which the Barretts' support will make an immense difference."

Dr. Barrett, formerly of Fayetteville, received the Bachelor of Science in Medicine from the School of Medicine in 1932. He received his M.D. degree from Jefferson Medical College in Philadelphia two years later.

\* \* \*

A number of faculty members from the School of Medicine participated in the 7th International Conference on Calcium Regulating Hormones Sept. 4-9 in Estes Park, Colorado. Roy V. Talmage, Ph.D., surgery and pharmacology, president of the conference, and Paul Munson, Ph.D., pharmacology, served on the executive committee. Invited papers were presented by Cary W. Cooper, Ph.D., pharmacology, T. Kenney Gray, M.D., medicine, and Walter Stumpf, M.D., anatomy. Submitted papers were presented by Tai-Chan Peng, M.D., pharmacology, Gayle Lister, Ph.D., medicine, and Steven A. Grubb, M.D., orthopedics. Also attending was Svein U. Tolverud, D.M.D., M.D., dental research and pharmacology.

\* \* \*

Dr. John A. Shallal, assistant professor of cardiothoracic surgery, presented a paper entitled "Hemodynamic Effect of Hypothermic-Pulsatile Cardiopulmonary Bypass" at the annual meeting of the Association for Academic Surgery, held in Birmingham, Alabama, Nov. 6-8.

\* \* \*

Dr. Paul T. Frantz, assistant professor of cardiothoracic surgery, spoke on "Clinical and Experimental Evaluation of Left Ventriculoiliac Shunt Bypass During Repair of Lesions of the Descending Thoracic Aorta" at the annual meeting of the Southern Thoracic Surgical Association in White Sulphur Springs, West Virginia, Nov. 12-15.

\* \* \*

Dr. Benson R. Wilcox, professor and chief of cardiothoracic surgery, gave a talk on "Surgical Anatomy of Double Outlet Right Ventricle with Situs Solitus and Atrioventricular Concordance" at the scientific sessions of the American Heart Association, held Nov. 17-20 in Miami Beach, Florida.

## News Notes from the—

## EAST CAROLINA UNIVERSITY SCHOOL OF MEDICINE

Dr. Elizabeth M. Stropnick has been appointed assistant professor of obstetrics and gynecology. Stropnick formerly was a physician with the Na-



tional Health Service Corps assigned to the eastern office of the N.C. Department of Human Resources. Since 1977 she has worked with the Improved Pregnancy Outcome Project in Greene and Wilson counties, the Improved Child Health Project in Northampton and Halifax counties and perinatal clinics in Pitt and Martin counties.

Stropnick received her undergraduate degree from Ripon College, Ripon, Wis., and her M.D. from Loyola University of Chicago-Stritch School of Medicine. She did postgraduate training in general medicine, general surgery and obstetrics at Bergen Pines County Hospital, Paramus, N.J., Veterans Administration Hospital, Hines, Ill., and St. Joseph's Hospital and Medical Center, Paterson, N.J.

\* \* \*

Dr. Joseph E. Williamson has been named assistant professor of emergency medicine. He formerly was in private practice in family medicine in Valdese, N.C. Prior to that he was a family physician with the Tarboro Clinic.

Williamson received his undergraduate degree from Duke University and his M.D. from the University of North Carolina at Chapel Hill, where he also completed postgraduate training.

\* \* \*

Dr. Gary I. Levine has been appointed physician at the Bethel Family Practice Clinic and instructor of family practice. The Bethel facility is a satellite unit of the medical school's Eastern Carolina Family Practice Center in Greenville.

Levine recently completed residency training at the University of Virginia's Lynchburg family practice program. He received an undergraduate degree from the University of Michigan, his M.D. from Wayne State University and did an internship in medicine at Ohio State University.

\* \* \*

Dr. Edward G. Flickinger, a specialist in gastroenterologic surgery and surgical endoscopy, has been named associate professor of surgery. He formerly was assistant professor of surgery at the Case Western Reserve University School of Medicine and Cleveland Metropolitan General Hospital in Cleveland, Ohio.

His special area of research is mesenteric ischemia, a condition caused by inadequate blood flow to the stomach and intestines.

Flickinger was a Morehead Scholar at the University of North Carolina at Chapel Hill and received his medical degree from Duke University. He completed postgraduate training in general surgery at University Hospital in Cleveland where he was awarded an American Cancer Society fellowship in surgical oncology.

\* \* \*

Dr. S. Jamal Mustafa, a specialist in cardiovascular research, has been named associate professor of pharmacology.

He formerly was associate professor at the University of South Alabama College of Medicine in Mobile. His research on blood flow in the heart is funded by a \$310,000 grant from the National Heart, Lung and Blood Institute.

Mustafa received his undergraduate, master's and doctorate degrees from Lucknow University in India. He was a postdoctoral fellow in toxicology at the Council of Scientific and Industrial Research in New Delhi and in physiology at the University of Virginia Medical School.

Mustafa is the author of "Cellular and Molecular Mechanisms of Coronary Flow Regulation By Adenosine" in the September issue of *Molecular and Cellular Biochemistry* and co-author of "Adenosine Receptors: Binding of Adenosine to the Crude Plasma Membrane Fraction of Dog Coronary and Carotid Arteries" in the September issue of the *Journal of Pharmacology and Experimental Therapies*.

\* \* \*

Dr. P. Bruce Campbell, associate professor of medicine, and Dr. Seymour Bakerman, chairman of pathology and laboratory medicine, have received a \$2,500 grant from the Eli Lilly Company for research on "In-Vitro Evaluation of MANDOL versus other Antibiotics Using the Micromedia System."

\* \* \*

Dr. Allen Bowyer, professor of medicine and chief of cardiology, presented "Heart Disease: Prevention and Risk Factor Modifications" and "Modern Methods of Diagnosis and Treatment of Coronary Heart Disease" at the Southern Union Medical-Dental Congress Oct. 30-31 in Gatlinburg, Tenn.

\* \* \*

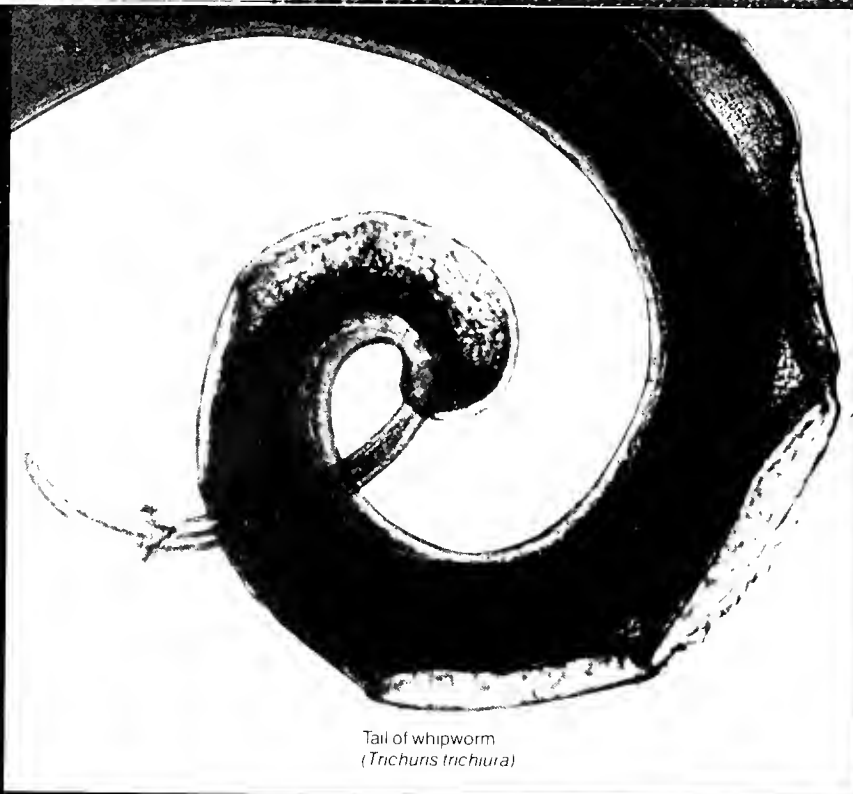
Dr. Robert S. Fulghum, associate professor of microbiology, presented "Chinchillas and Gerbils as Animal Models for Otitis Media" at the N.C. Society for Microbiologists meeting in Gatlinburg, Tenn., Nov. 13-15.

\* \* \*

Several members of the Department of Anatomy participated in the meeting of the Southern Society of Anatomists in Augusta, Ga. Faculty presentations included: Dr. Hubert W. Burden, "Cellular Junctions in the Theca Externa of the Rat Ovary during the Pre-Ovulatory Period"; Dr. Arthur R. Diana, "Alteration of Caliber Spectra and Numerical Density Associated with Nerve Fibers in the Sympathetic Trunk of the Ketonuric Diabetic Chinese Hamster"; Dr. David R. Garriss, "Alterations in Uterine Blood Flow during Deciduoma Formation in the Pseudo-Pregnant Rat"; Dr. Max Poole, "Suppression of Gonadotropin Secretion by Hyper-Prolactinemia"; and Dr. Jack E. Brinn, "Fixation of Pancreatic Islets for Morphometric Analysis."

\* \* \*

An article by Dr. C. Tate Holbrook, assistant pro-



Tail of whipworm  
(*Trichuris trichiura*)

# Vermox<sup>®</sup>: the only anthelmintic highly effective against whipworm.

	Cure Rate	Egg Reduction
VERMOX <sup>®</sup>	68%*	93%**
Mintezol <sup>1</sup>	35%†	45%††
Antiminth <sup>2</sup>	Not Indicated	
Povan <sup>3</sup>	Not Indicated	

## Also highly effective against roundworm and hookworm

Since whipworm, roundworm and hookworm are all soil-borne helminths, mixed infections are not uncommon. Only one anthelmintic exhibits high efficacy rates for all three nematodes: whipworm—68%; roundworm—98%; hookworm—96%. That agent is VERMOX:

Please see following page for Summary of Prescribing Information.

**Broad-spectrum coverage  
in mixed helminthic infections**

**Vermox<sup>®</sup>** TABLETS  
(mebendazole)



JANSSEN PHARMACEUTICA INC.  
New Brunswick, N.J. 08903

Committed to research...  
because so much remains to be done.

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JFH-23



## Broad-spectrum coverage in mixed helminthic infections

# **VERMOX<sup>®</sup>** (mebendazole)

**Contraindications** VERMOX is contraindicated in pregnant women (see: Pregnancy Precautions) and in persons who have shown hypersensitivity to the drug.

**Precautions** **PREGNANCY:** VERMOX has shown embryotoxic and teratogenic activity in pregnant rats at single oral doses as low as 10 mg/kg. Since VERMOX may have a risk of producing fetal damage if administered during pregnancy, it is contraindicated in pregnant women.

**PEDIATRIC USE:** The drug has not been extensively studied in children under two years; therefore, in the treatment of children under two years the relative benefit/risk should be considered.

**Adverse Reactions** Transient symptoms of abdominal pain and diarrhea have occurred in cases of massive infection and expulsion of worms.

**Dosage and Administration** The same dosage schedule applies to children and adults. The tablet may be chewed, swallowed or crushed and mixed with food. For the control of pinworm (enterobiasis), a single tablet is administered orally, one time.

For the control of roundworm (ascariasis), whipworm (trichuriasis), and hookworm infection, one tablet of VERMOX is administered, orally, morning and evening, on three consecutive days.

If the patient is not cured three weeks after treatment, a second course of treatment is advised. No special procedures, such as fasting or purging, are required.

\* Mean cure rate of VERMOX<sup>®</sup> in treating whipworm; cure rate range of 61-75%. Data on file at Janssen Pharmaceutica Inc.

\*\* Mean egg reduction of VERMOX<sup>®</sup> in treating whipworm; egg reduction range of 70-99%. Data on file at Janssen Pharmaceutica Inc.

† Rollo, I.M.: Drugs used in the chemotherapy of helminthiasis, in Goodman, L.S.; and Gilman, A. (eds.): *The Pharmacological Basis of Therapeutics*, ed. 5. New York, Macmillan, 1975, p. 1034.

†† Miller, M.J.; Krupp, I.M.; Little, M.D.; Santos, C.: Mebendazole an effective anthelmintic for trichuriasis and enterobiasis. *JAMA* 230 (10): 1412-1414, Dec. 9, 1974.

1. Registered trademark of Merck Sharp and Dohme.
2. Registered trademark of Roerig.
3. Registered trademark of Parke-Davis.



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Committed to research...  
because so much remains to be done.

fessor of pediatrics, appeared in a recent issue of *Medical and Pediatric Oncology*. The article is titled "Successful Chemotherapy for Childhood Metastatic Embryonal Cell Carcinoma of the Testicle: A Preliminary Report."

\* \* \*

Dr. Donald Hoffman, associate professor of pathology and laboratory medicine, published "Dog and Cat Allergens: Urinary Proteins or Dander Proteins?" in the October issue of *Annals of Allergy*.

\* \* \*

Dr. Richard S. Marx, assistant professor of medicine, presented "A Comparison of Indirect Fluorescent and Proteus Agglutinating Antibody Titers for Rocky Mountain Spotted Fever in a Group of Sixth Graders" at a November meeting of the Kentucky-Tennessee chapter of the American Society of Microbiologists.

\* \* \*

Dr. Jon B. Tingelstad, chairman of the Department of Pediatrics, has been appointed to a three-year term on the Task Force on Recent Advances for the American Academy of Pediatrics. The task force is responsible for the development of educational materials covering recent advances in the field.

\* \* \*

Dr. Robert Deepe, surgery resident, has received a \$20,000 fellowship from the Charles E. Culpepper Foundation to support research on kidney and liver transplantation.

\* \* \*

Dr. James L. Mathis, chairman of psychiatry, presented "Psychosomatic Mechanisms" at a November meeting of the N.C. Neuropsychiatric Association in Winston-Salem.

### News Notes from the—

## DUKE UNIVERSITY MEDICAL CENTER

Dr. William G. Anlyan, Duke University's vice-president for health affairs, received the Abraham Flexner Award for Distinguished Service to Medical Education at the 91st annual meeting of the Association of American Medical Colleges (AAMC). The presentation was made October 28 in Washington, D.C.

The Flexner Award, established in 1958, is given by the AAMC each year to recognize "an extraordinary individual who has contributed to medical schools and to the medical community as a whole." Anlyan was honored for his outstanding contributions as a medical education administrator.

Since Anlyan became dean in 1964, a library and

communications center and a comprehensive cancer center have been built. In May of this year, the \$95-million North Division opened to patients.

Anlyan has been a major participant in medical education affairs at the national level. In the 1960s he was influential in determining the future course of the AAMC, serving on its executive council from 1964-71 and leading the association as chairman of its assembly in 1970-71. He was also a member and chairman of the Board of Regents of the National Library of Medicine.

\* \* \*

A group of Duke family medicine educators received a \$229,062 contract from the National Health Service Corps (NHSC) for a pilot project designed to give primary care physicians practical experience in areas short of doctors. The 16-month contract provides 70 primary care residents — family physicians, general internists and general pediatricians — with one-month rotations in geographic areas having less than one physician per 3,500 population.

"The rotations provide residents with some reality testing," according to Dr. Katharine Munning, assistant project director. "It lets them compare what they are going to have to do clinically with the training they are getting in their residency program. For example, a resident may do a rotation in a small southern town and discover he needs training in community leadership and small town government." The student could then return to the residency program and take elective courses which would fill that gap.

Other Duke faculty participating in the project include Dr. Samuel W. Warburton, who is serving as project director, and Drs. James Bobula and George Parkerson.

\* \* \*

Dr. Sigmund Tannenbaum, chief resident in the Division of Urology, spent a year and a half organizing a seminar in honor of his father. The resulting A. Jack Tannenbaum Advanced Medical Education Seminar was held November 12 in Greensboro.

The elder Tannenbaum, a Duke University trustee, has practiced cardiology and internal medicine in Greensboro for more than 40 years.

Speakers were: Dr. Timothy Lane, infectious disease specialist on the teaching staff of Moses H. Cone Memorial Hospital; Dr. Suydam Osterhout, professor of medicine at Duke; and Dr. F. William Blaisdell, professor and chairman of surgery at the University of California — Davis School of Medicine. A workshop on practical application of intensive care unit data management rounded out the day.

\* \* \*

Studies conducted at Duke show that certain drugs used to treat infections among patients undergoing peritoneal dialysis lose up to 75% of their effectiveness before the patients ever receive them. The result is that infections can be unnecessarily prolonged or

possibly become more severe before alternative forms of therapy are substituted, according to Peter Zwadyk, M.D., associate professor of pathology and microbiology at Duke and chief of microbiology at the Durham VA hospital.

The research was presented in a paper delivered at the 20th Interscience Conference on Antimicrobial Agents and Chemotherapy held in New Orleans.

"Patients whose vascular systems cannot withstand the strain of hemodialysis sometimes contract abdominal infections, and antibiotics are often mixed with the dialysis solutions as a form of therapy," Zwadyk said. "We became curious about whether the antibiotics were still effective when mixed with dialysis fluids after we noticed a cloudy precipitate in the fluid. We found that five of the most commonly used drugs — the cephalosporins and vancomycin — remain stable, that seven others — the aminoglycosides and the penicillins — decline in potency from 25% to 75% within 24 hours."

Zwadyk said the findings have already changed the way the affected drugs are administered to peritoneal dialysis patients at Duke and the VA medical centers. He plans to publish the study as soon as possible.

\* \* \*

Scientists at the medical center believe they can now explain a major part of the disease process responsible for diabetic retinopathy, the leading cause of blindness in the United States. The research was reported by Dr. Myron Wolbarsht, professor of ophthalmology and biomedical engineering, to the fall meeting of the American Physiological Society held in Toronto.

The researchers propose that because high blood sugar increases the oxygen requirements of cells in the eye and elsewhere in the body, the arteries expand to carry more oxygen-laden blood. As the blood vessels in the back of the eye swell with blood and become more fragile, they grow into the normally clear gel that helps the eyeball maintain its spherical shape, often leaking blood. The damaged vessels can also kill the light-sensitive retina, which lines the inside of the eye, pulling it away from its source of nourishment when the gel shrinks.

Wolbarsht's collaborators in the work were Drs. Maurice B. Landers, professor of ophthalmology, and Einar Stefansson, a physician from Iceland who is currently working on a Ph.D. in physiology at Duke.

The finding is neither a cure nor a treatment for the condition, they say, but it may offer important suggestions about how diabetic retinopathy can be prevented or better controlled in the future.

Specifically, the research suggests that it may be much more important for diabetics to control their average blood sugar level than was previously thought. "Diabetics can have a lot of problems if their glucose gets too low, so many of them keep the level a little higher than normal to have a cushion against blacking out or going into a coma. It now seems that this 'cushion' is not good because of its effects on the

eye and other organs and perhaps it would be better to keep the average as low as possible," Wolbarsht said.

In addition to keeping one's blood sugar carefully regulated, therapy may be as simple as breathing oxygen from time to time, particularly at night when the oxygen consumption of the retina is highest. Like the new disease theory, however, the oxygen sniffing therapy has yet to be proven.

\* \* \*

F. Ross Porter, former superintendent of Duke Hospital and an early developer of Duke's hospital administration program, died in Durham on November 2. He was 72.

Porter joined the hospital staff as an assistant superintendent in 1930, the year Duke Hospital opened. At the request of Dr. Wilburt C. Davison, the medical school's first dean, Porter and Vernon Altwater, the other assistant superintendent, put together a training program for hospital administrators that eventually became Duke's Department of Health Administration.

Porter was superintendent of the hospital, director of the health administration program, and professor of health administration from 1949-59. Subsequently, he worked as a hospital consultant for the Foreign Aid Agency of the U.S. State Department and for the U.S. Public Health Service.

With the opening of the North Division, Duke University Hospital has the only burn unit in the state with laminar flow units, which surround patients with a steam of germ-free air.

Laminar flow units serve the four intensive care beds in the seven-patient unit. Each unit consists of a clear plastic curtain surrounding the bed; warm air, passing through extremely fine filters, flows downward over the patient and exits at the bottom of the curtain. Bacteria have no chance to settle.

Only four or five hospitals in the country are equipped with laminar flow units.

The Duke unit is self-contained, providing multidisciplinary physical and psychological care for the burn victim. A small operating room is included, so that the patient need not leave the clean, controlled environment.

\* \* \*

Wolfgang K. Joklik, professor and chairman of the Department of Microbiology and Immunology, received a \$138,397 grant from the National Institute of Allergy and Infectious Diseases for the study of "Macromolecular Synthesis in Virus-Infected Cells." He also received a \$151,483 grant from the National Institute of Allergy and Infectious Diseases for the study of "Basic Mechanisms in Infectious Diseases."

\* \* \*

Harold R. Silberman, professor in the Department

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of Medicine, received a \$155,957 award from the National Cancer Institute for his project, "Cooperative Studies in Cancer Therapy."

\* \* \*

Lowell A. Goldsmith, professor of medicine, received a \$59,338 grant and a \$72,644 grant from the National Institute of Arthritis, Metabolism and Digestive Diseases. The first grant supports a project titled "Structural Proteins in Genetic Defects of Epidermis" and the second will be used to study "Monoclonal Antibodies to Human Epidermis."

\* \* \*

Saul M. Schanberg, professor of pharmacology, was awarded a \$174,204 grant from the National Institute of Mental Health for his project on "Neurotropic Drugs, Hormones and Brain Function."

\* \* \*

Dr. James R. Urbaniak, professor of orthopaedic surgery, was elected president of the Eastern Orthopaedic Association at its annual meeting. Fourteen hundred orthopaedic surgeons from the eastern seaboard belong to the association.

\* \* \*

Dr. Michael A. Petty, a psychiatric resident at Duke

since July, 1975, collapsed behind the wheel of his car and died on October 8. An autopsy report attributed the death to "sudden death syndrome." Dr. Petty specialized in child psychiatry.

#### News Notes from the—

### BOWMAN GRAY SCHOOL OF MEDICINE WAKE FOREST UNIVERSITY

The Bowman Gray School of Medicine and North Carolina Baptist Hospital have begun moving into the medical center's newest addition, the Focus Building.

Construction of the Focus Building climaxes a 15-year expansion program which will be completed at a cost of more than \$72 million.

One element of the program yet to be completed is the renovation of 218,000 square feet of space in the medical school and 35,000 square feet in the hospital.

The 178,000-square-foot Focus Building provides acutely needed space for academic and administrative offices and for basic support units. The move into the building opens up space in other areas of the hospital and medical school for expanding programs in research, teaching and patient care.

\* \* \*

Surgeons at the Bowman Gray/Baptist Hospital Medical Center are salvaging blood which once would have been thrown away and are using it to contribute to the recovery of many surgical patients.

Because of new technology, which is having an impact nationwide, doctors at the medical center can recycle blood lost by patients during certain kinds of surgery. The lost blood can be returned to a patient in a matter of minutes.

The blood salvaging techniques are faster, less expensive and eliminate any chance of infection caused by a donor's blood. They put less pressure on supplies of donated blood, thus making more donated blood available to patients whose surgery is not suitable for blood salvaging.

The new techniques also be used after a surgery patient has returned to his room, while bleeding may still be occurring.

The medical center's experience with blood salvaging, having used it in more than 200 operations, is to be reported in "The Annals of Thoracic Surgery."

Blood salvaging also is taking place in the emergency room to benefit patients who suffer severe chest injuries.

Blood which once was left in the heart-lung machine after open heart surgery is being salvaged and returned to the patients. Even the method for priming

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the heart-lung pump has been changed to avoid priming with donated blood.

\* \* \*

David Rickelton, a native of Charlotte, has been named as North Carolina Baptist Hospital's vice president for professional services. The hospital is Bowman Gray's principal teaching hospital.

Rickelton comes to the hospital from the position of administrator of Doctors Hospital in Cullman, Ala.

He holds the B.S. degree in pharmacy from the University of North Carolina at Chapel Hill and the Master of Hospital Administration degree from the Medical College of Virginia. He is a registered pharmacist in North Carolina.

Rickelton previously served as assistant director for outpatient services at Moses Cone Hospital in Greensboro.

\* \* \*

Researchers at Bowman Gray's Cancer Center have shown that one of medicine's most potent anti-cancer drugs can be made more effective by changing the way it is administered.

Studies involving patients with advanced cancers has demonstrated a good response to the new way of administering the drug vincristine, even among pa-

tients who previously had ceased to be helped by the drug.

For purposes of the research, a good response was defined as a reduction in the size of a tumor of at least 50%.

The researchers' intent was to extend the time that vincristine is in the body. They accomplished that by slowly infusing the drug into the body rather than giving the drug by quick injection.

The infusion technique requires 120 hours to get a given amount of vincristine into the body.

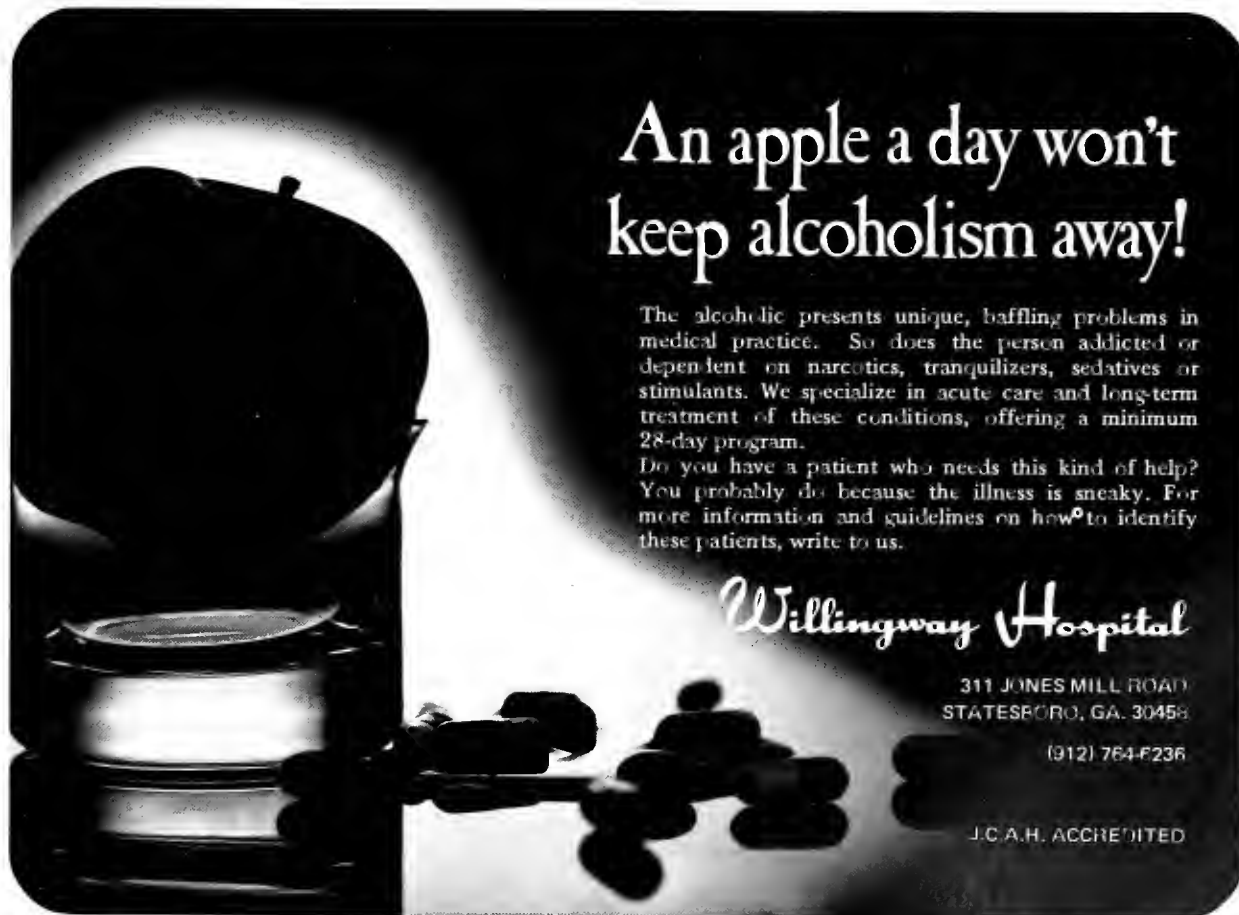
Starting a year ago, 30 patients with advanced cancers were selected to receive vincristine by slow infusion. They were patients who were not responding well to any treatment. When the initial phase of the treatment ended, 11 of those patients had responded well to the infusion method.

\* \* \*

A surgical team from the Bowman Gray/Baptist Hospital Medical Center spent a week in November assisting with surgery at Holy Cross Hospital in Leogone, Haiti.

The trip was arranged at the invitation of the North Carolina Diocese of the Episcopal Church and the Diocese of Haiti.

The team included a plastic surgeon, two surgical



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residents, a resident in anesthesia, a nurse anesthetist and an operating room nurse. A neurosurgeon headed the team.

Without the help of visiting surgeons, the small Holy Cross Hospital cannot perform major surgery. The team performed five or six major surgical procedures per day.

\* \* \*

Dr. Carlos E. Agudelo, assistant professor of medicine (rheumatology), has been elected secretary-treasurer of the North Carolina Rheumatism Society.

\* \* \*

Dr. Vardaman M. Buckalew, professor of medicine and physiology, has been appointed to a one-year term on the Ad Hoc Committee on Restricted Gifts for Research Development Funds of the American Heart Association, North Carolina Affiliate, Inc.

\* \* \*

Dr. Courtland H. Davis Jr., professor of neurosurgery, has been elected vice president of the American Academy of Neurological Surgery. He also has been elected a member of the Board of Directors and treasurer of the Piedmont Medical Foundation, Inc.

\* \* \*

Patricia A. Gibson, instructor in pediatric neurology (social work), has been appointed to the Task Force for the International Year of Disabled Persons.

\* \* \*

Bill Glance, director of Bowman Gray's Office of Information and Publications, was presented the Distinguished Merit Award of the Association of American Medical Colleges, Group on Public Affairs, during the AAMC's annual meeting. The award recognizes high achievement and service in medical public relations.

\* \* \*

Dr. Frederick W. Glass, associate professor of surgery (emergency medicine), has been re-elected to a two-year term as president of the North Carolina Chapter of the American College of Emergency Physicians.

\* \* \*

Dr. Joseph E. Johnson III, professor and chairman of the Department of Medicine, has been elected vice-chairman of the Residency Review Committee for Internal Medicine of the American Medical Association.

\* \* \*

Dr. Julian F. Keith, professor and chairman of the Department of Family and Community Medicine, has been appointed a member of the Task Force for North Carolina's White House Conference on Aging.

Dr. David L. Kelly Jr., professor of neurosurgery, has been re-elected to the board of directors of the American Association of Neurological Surgeons as the representative to the Congress of Neurological Surgeons.

\* \* \*

Dr. Manson Meads and Dr. Richard Janeway have been elected to the Executive Council of the Association of American Medical Colleges. Dr. Meads, director of the Bowman Gray/Baptist Hospital Medical Center, was elected as the council's Distinguished Service Member. Dr. Janeway, dean of the Bowman Gray School of Medicine, was re-elected to the council from the association's Council of Deans.

\* \* \*

Dr. Quentin N. Myrvik, professor and chairman of the Department of Microbiology and Immunology, has been appointed to the Scientific Review Committee for the Lung Division of the National Heart, Lung and Blood Institute.

\* \* \*

Dr. C. Glenn Sawyer, professor of medicine (cardiology), has been elected a governor (representing North Carolina) of the American College of Cardiology.

\* \* \*

Dr. Earl Schwartz, assistant professor of surgery (emergency medicine), has been re-elected to the Board of Directors of the North Carolina State Chapter of the American College of Emergency Physicians.

\* \* \*

Dr. James F. Toole, professor and chairman of the Department of Neurology, has been appointed a consultant for the Food and Drug Administration and appointed a member of the Planning Subcommittee of the National Institute of Neurological and Communication Disorders and Stroke.

#### AMERICAN ACADEMY OF FAMILY PHYSICIANS

Dr. Robert H. Shackelford of Mount Olive has been re-elected to a second term as speaker of the Congress of Delegates of the American Academy of Family Physicians. The congress is the academy's governing body. Shackelford is an assistant professor of family practice at several medical schools, including Duke University and the University of North Carolina, and has been president of the N.C. Academy of Family Physicians and chairman of its Commission on Public Health and Scientific Affairs. He is a 1947 graduate of the Bowman Gray School of Medicine of Wake Forest University.

Another North Carolina physician, Dr. George T. Wolff of Greensboro, was elected to a second term as treasurer of the academy. He is associate professor of family practice at the UNC Medical School and director of the Family Practice Center, a residency

training program, at the Moses H. Cone Memorial Hospital in Greensboro. Wolff has been president of the N.C. Academy of Family Physicians and was chairman of its Scientific Assembly Committee for three years. He received his medical degree from Jefferson Medical College at Thomas Jefferson University, Philadelphia, in 1952.

#### **AMERICAN ACADEMY OF OPHTHALMOLOGY**

Dr. Lawrence White Moore Jr., staff ophthalmologist and assistant director of medical education at McPherson Hospital in Durham, has received the

American Academy of Ophthalmology's 1980 Honor Award for service to the profession. The award was presented in Chicago at the academy's annual meeting in November. Moore, an honor graduate of Virginia Polytechnical Institute, received his medical degree from Duke University and completed his residency at the University of North Carolina School of Medicine and McPherson Hospital in 1970. In addition to his hospital duties, Moore is a clinical associate professor of ophthalmology at the UNC School of Medicine and director of ophthalmology at Dorothea Dix Hospital in Raleigh.

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# Month in Washington

Until mid-January the most-used word in the nation's capital will be transition although to the purist, the word "interregnum" is preferable to "transition" — for indeed there is an interval, a suspension of administrative function, between two successive reigns. Reagan people — or allegedly Reagan people — will swarm about the town with knowing looks, tapping briefcases bulging with position papers and bright new ideas for a brave new government.

Reagan has been supplied with detailed position papers on health policy for use in charting his administration's course next year. A transition team is working with President Carter and his aides on the transfer of power. The proposed federal budget for the fiscal year that starts next October is almost completed. And now the Reagan officials will have their whack at it. Usually a new administration doesn't do much tampering with the carryover budget.

To lay the groundwork for early action, Reagan appointed six people to review the federal structure with an eye to lower level appointments and possible reorganizations. Elizabeth Dole, wife of Sen. Robert Dole (R-Kan.) and former member of the Federal Trade Commission, will handle human resources including the Health and Human Services Department, the Housing and Urban Development Department and the Department of Education.

Reagan has indicated opposition to the separate Department of Education that was established to carry out a campaign pledge by President Carter. And there has been talk about reorganizing the HHS Department in order to put more emphasis on health and less on welfare.

Reagan's health advisory group, headed by William Walsh, M.D., president of Project Hope, has proposed a pool arrangement for private health insurance companies under which insurance would be made available to people whose disabilities make them uninsurable at present. They would pay premiums which would be subsidized, if necessary, by the rest of the insured population.

Other recommendations included:

- Allowing Medicare-Medicaid beneficiaries to choose private coverage with premiums paid by the government.

- Examining the \$1 billion renal dialysis program to determine if services could be provided at less cost.

- Expanding home health benefits with the aim of reducing Medicare-Medicaid payments for hospital and nursing home care.

- Decentralizing health planning.

The Heritage Foundation, a conservative think tank with strong ties to the Reagan administration, has come up with a blueprint that includes some sweeping changes in health programs.

The Foundation calls for examination of methods of "phasing out Medicaid and Medicare in their present form, pursuant to the development of systems relying on 'vouchers' and a more competitive private market."

Foundation President Edwin Feulner, said the Foundation's "Mandate for Leadership" study, a year in the making, is a basic set of conservative policy recommendations "which I hope the Reagan administration will give its careful and serious consideration." He said the study represents the opinions of more than 250 experts from government, universities, think tanks, business, and the legal profession.

The author of the report on the HHS Department was David Winston, an aide to Sen. Richard Schweiker (R-Pa.).

The HHS section proposed a freeze on all HHS consulting contracts pending a full review of their usefulness, noting that the department "is very heavily dependent on such outside consultants."

Turning to the Health Care Financing Administration (HCFA), which runs Medicare and Medicaid, the report said HCFA has considerable difficulties managing fiscal intermediaries (e.g. insurance carriers) through which Medicare and Medicaid programs are administered. Furthermore, it finds it difficult to restrict health cost increases because of the retrospective, cost-based reimbursement system for these programs.

Immediate search for means to improve the administration of Medicaid and Medicare was urged. Containment policy should be turned away from a controls and guidelines approach to a process of reimbursement reform, deregulation, and improved competition, according to the study.

A significant recommendation was that "attention should be given, however, to the reduction or elimination of the Professional Standards Review (PSRO) program."

The Foundation study also noted that the National Institutes of Health has been criticized for duplicating work in the private sector. "Private organizations should be encouraged to carry out more development work, reserving NIH for areas with little commercial promise. Methods could be sought for altering the tax

treatment of private research to encourage private involvement in more risky, innovative fields."

The report added that "bureaucratic problems of NIH might be reduced by strengthening the director's authority to improve budgeting and planning, and by analyzing the cost structure with a view to reducing indirect costs." Another significant proposal was for a thorough review of federal involvement with Health Maintenance Organizations (HMOs) with a possible six-month moratorium on all new program awards and extensions.

\* \* \*

House-Senate conferees have deleted from the Medicare-Medicaid amendments package a majority of the provisions that had been disputed by the medical profession.

The victory for the health providers was highlighted by elimination of the controversial Senate provision that would have restricted Medicaid beneficiaries' freedom of choice of institution by allowing states to specify which hospitals beneficiaries could attend.

Advocates of the provision had claimed that states could save money by channeling Medicaid patients to lower-cost facilities, but opponents, including the AMA, warned that such restrictions raised the spectre of a two-tier system of care.

The amendments constituted the health section of the budget "reconciliation" bill Congress has been working on in an attempt to bring federal spending in line with Congress' own, self-imposed budget limitations.

The conference committee's agreement on the total budget "reconciliation" was expected to clear the way for final Congressional approval. There had been a question whether Congress would be able to work out a compromise between House and Senate versions of the bill during the "lame duck" session, but the lawmakers were anxious to resolve their differences in order to avoid what would have been a shattering blow to the Congressional budget process through failure to act.

One of the major provisions removed from the Medicare-Medicaid list was the proposal for sweeping changes in the way Medicare reimburses hospitals. This was the heart of the longstanding plan by Sen. Herman Talmadge (D-Ga.) to pay hospitals by groups, size and class on a prospective basis.

Another Talmadge provision dropped would have changed the criteria for determining reasonable charges for physicians' services and looked toward state-wide uniformity in fee allowances. This provision also would have restructured the payment basis for hospital-associated physicians.

A controversial, administration-supported provision to boost Medicare payments for Health Maintenance Organizations (HMOs) to 95% of the prevailing level was stripped from the measure.

\* \* \*

Hospitals won their fight against a cost-cutting

amendment that would have eliminated the current Medicare 8.5 percent differential payment for nursing costs.

The conferees also abandoned a proposal for liberalized conditions for reimbursement for chiropractic services, and voted down a provision for expanded payment for community mental health centers.

\* \* \*

The AMA has taken strong exception to two draft documents on health planning and has asked Health and Human Services Secretary Patricia Harris to recall them immediately.

The documents outline standards and measurements to be used in evaluating Health Systems Agencies, State Health Planning and Development Agencies, and the Health Planning Program as a whole. While recognizing the need for federal monitoring of the program, the AMA said the two drafts "represent an unduly extensive imposition of federal standards on the health planning process."

The AMA pointed out that the proposed standards are derived from the 1978 National Health Planning Guidelines and the draft National Health Goals, neither of which yet has legal standing. "The wholesale incorporation of these guidelines and goals into a review system to establish norms, the deviation from which will subject an agency to sanctions, transforms the guidelines and goals into federally-mandated requirements."

The Association stressed that planning authority and direction should be focused at the local level and suggested that any future proposals consider greater flexibility for state and local agencies in establishing indicators to measure their progress.

\* \* \*

Contending there is a "totally inadequate" national awareness of prescription drug abuse, the Director of the National Institute of Drug Abuse (NIDA) warned the problem could reach the magnitude of alcohol and tobacco as health hazards.

Federal officials estimated seven million Americans use legal drugs for non-medical purposes. William Pollin, M.D., NIDA Director, said misuse of prescription drugs is insidious and shows no signs of decreasing.

Dr. Pollin spoke at a Washington, D.C., conference sponsored by the federal drug agencies in conjunction with the American Medical Association, the Pharmaceutical Manufacturers Association and the National Association of State Alcohol and Drug Abuse Directors.

Peter Bensinger, Administrator of the Drug Enforcement Administration, said 250 million to 300 million dosage units are diverted each year. "A few physicians and pharmacists interested in illicit gain have caused a major national problem," he said. Federal investigators found one physician making \$200,000 a month from dealing illegally in prescription

drugs, he said. One physician's desk drawer contained more than \$1 million in cash.

The government officials conceded they could not estimate accurately how much of the problem stems from crooked physicians and pharmacists and how much from theft, from "professional patients," or other means.

Joseph Skom, M.D., Chairman of the AMA Committee on Dangerous Drugs, said the most important task is continuing medical education of physicians on

proper prescribing. The overwhelming majority of the problem is caused by a "small minority" of physicians, Dr. Skom told the conference.

The AMA has drafted model state legislation to facilitate a crackdown on physician misconduct, he noted, with half the states to date providing all or part of the recommended code. Dr. Skom pointed to a six-fold increase in disciplinary actions against physicians since 1971, suggesting that this has helped in the fight against prescribing abuse. The AMA believes in "firm prosecution" of guilty physicians, he said.

---

### Mitral Stenosis

It is necessary then, to have the agreement of a large number of symptoms to make a diagnosis of the stenoses of the right orifices, it is necessary that we have a face of a color like ecchymoses, that we have a very marked enlargement of the veins and particularly those of the liver; that the volume of this organ be increased; that breathlessness be marked and of long standing. All the signs in a word, which could indicate an affection of the right cavities, dilated because of a narrowing of the orifices and these things to be the characteristics of the pulse which in this case is less irregular than that in narrowing of the right orifices, but less regular, however, than in the natural state. The obscurity which surrounds the signs of the narrowing of the right orifice, does not entirely disappear, when we try to recognize the imperfect obliteration of the left auriculo-ventricular orifice. Moreover, besides the general signs of heart disease, which are constantly found in this latter condition, as well as in the former, because there is almost always an aneurysmal complication, there are certain signs which allow us to recognize the affection in question.

Among these there is a certain thrill (bruissement) difficult to describe, perceptible when the hand is applied to the precordial region, a thrill which comes without doubt, from the difficulty which the blood finds in passing through an orifice which is not large enough for the quantity of blood which it is supposed to let pass. This same thrill is also recognizable, but is much less marked, by the hand, which studies the phenomena of the pulse. This characteristic is not the only one, by which the pulse shows the existence of a narrowing of the left orifice; it is more irregular in the case of narrowing of the right orifice, but less irregular than when the aortic orifice is changed. Moreover, it shows that neither the force, the hardness, nor the fullness, because the quantity of blood, which the left ventricle puts out is proportional to that which it receives from the left auricle, which does not empty completely, because the action of the ventricle is not so vigorous since it is only feebly stimulated by the small quantity of blood. — Jean Nicholas Corvisart, 1806.

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- Contraindicated during pregnancy and the nursing period. During therapy, maintain adequate fluid intake; perform CBC's and urinalyses with microscopic examination.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications and Usage:** For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, *Proteus vulgaris*, *Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

**Also for the treatment of documented *Pneumocystis carinii* pneumonia.** To date, this drug has been tested only in patients 9 months to 16 years of age who were immunosuppressed by cancer therapy.

The recommended quantitative disc susceptibility method (*Federal Register*, 37:20527-20529, 1972) may be used to estimate bacterial susceptibility to Bactrim. A laboratory report of "Susceptible to trimethoprim-sulfamethoxazole" indicates an infection likely to respond to Bactrim therapy. If infection is confined to the urine, "Intermediate susceptibility" also indicates a likely response. "Resistant" indicates that response is unlikely.

**Contraindications:** Hypersensitivity to trimethoprim or sulfonamides; pregnancy; nursing mothers; infants less than two months of age.

**Warnings:** Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

**Precautions:** Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function.

**Adverse Reactions:** All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. **Blood dyscrasias:** Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. **Allergic reactions:** Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. **Gastrointestinal reactions:** Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. **CNS reactions:** Headache,

peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. **Miscellaneous reactions:** Drug fever, chills, toxic nephrosis with oliguria and anuria, periarthritis nodosa and L. E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

**Dosage:** Not recommended for infants less than two months of age.

**Urinary Tract Infections:** Usual adult dosage—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days.

Recommended dosage for children—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. A guide follows:

*Children two months of age or older*

Weight		Dose—every 12 hours	
lbs	kgs	Teaspoonfuls	Tablets
20	9	1 teasp. (5 ml)	½ tablet
40	18	2 teasp. (10 ml)	1 tablet
60	27	3 teasp. (15 ml)	1½ tablets
80	36	4 teasp. (20 ml)	2 tablets or 1 DS tablet

For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	½ the usual regimen
Below 15	Use not recommended

***Pneumocystis carinii* pneumonia:** Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

**Supplied:** Double Strength (DS) tablets, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose® packages of 100. Tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40, available singly and in trays of 10. Oral suspension, containing in each teaspoonful (5 ml) the equivalent of 40 mg trimethoprim and 200 mg sulfamethoxazole, fruit-licorice flavored—bottles of 16 oz (1 pint).

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Please see back cover.

the next attack of cystitis may be avoided

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Bactrim has shown high clinical effectiveness in recurrent cystitis as a result of its wide spectrum and distinctive antimicrobial action in the urinary, vaginal and lower intestinal tracts.

The probability of recurrent urinary tract infection appears to be enhanced by the establishment of large numbers of *E. coli* or other urinary pathogens on the vaginal introitus. The trimethoprim component of

Bactrim diffuses into vaginal fluid in effective concentrations, thus combating migration of pathogens into the urethra.

Studies have shown that Bactrim acts against *Enterobacteriaceae* in the bowel without the emergence of resistant organisms. Thus, Bactrim reduces the risk of introital colonization by fecal uropathogens. It has no significant effect on other normal, necessary intestinal flora.

## Bactrim fights uropathogens in the urinary tract/vaginal tract/lower intestinal tract

Please see reverse side for summary of product information.

# North Carolina

## MEDICAL JOURNAL

The Official Journal of the NORTH CAROLINA MEDICAL SOCIETY □ □ □ February 1981, Vol. 42, No. 2

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**1981 Annual Sessions:** May 7-10,  
Pinehurst

**1981 Committee Conclave:** Sept. 23-27,  
Southern Pines

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**Ensures smooth therapeutic effect even if a dose is missed** The relatively longer half-life of Valium® (diazepam/Roche) has important clinical and pharmacological implications. Steady-state levels generally are reached within 5-7 days with no further accumulation. At this plateau, the patient benefits from the consistent, steady response you expect. Sharp blood level variations, frequently attributed to agents with a short half-life, do not appear with Valium.

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Once steady-state levels are achieved, sudden reemergence of symptoms is unlikely. Diazepam and its active metabolites exhibit overlapping half-lives that are advantageous not only during therapy but especially when pharmacologic support is discontinued.

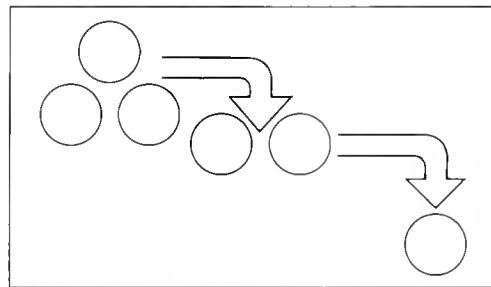
Elimination rates are gradual with Valium and thus provide a compatible adjustment interval for

the patient. In comparison, blood levels of short-acting agents with inactive metabolites decrease more rapidly and are more likely to be associated with withdrawal symptoms if medication is stopped abruptly.\* With Valium unwanted effects other than drowsiness or ataxia are rare. Patients should be cautioned about driving and advised to avoid alcohol.

**Tapers naturally; complements gradual dosage reduction at discontinuation**

When any psychoactive medication is discontinued, it is good medical practice to gradually reduce the dosage. From your own experience you know this is rarely necessary after a short course of Valium therapy, but for patients on extended therapy, gradual reduction of dosage is advisable. This regimen, along with the self-tapering feature of Valium, provides a smooth transition to independent coping.

\*Sellers EM: *Drug Metab Rev* 8(1):5-11, 1978



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**Valium®**  
diazepam/Roche  
2-mg, 5-mg, 10-mg scored tablets

*effective therapy through  
efficient pharmacodynamics*

Before prescribing, please see summary of product information on next page



**Valium®**  
diazepam/Roche

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Management of anxiety disorders, or short-term relief of symptoms of anxiety; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal, adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, atetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

**Usage in Pregnancy:** Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice, periodic blood counts and liver function tests advisable during long-term therapy.

## NORTH CAROLINA MEDICAL SOCIETY MEETINGS

PLAN  
AHEAD

### ANNUAL MEETING

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# NORTH CAROLINA MEDICAL JOURNAL

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Contents listed in *Current Contents/Clinical Practice*



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fever

watery eyes

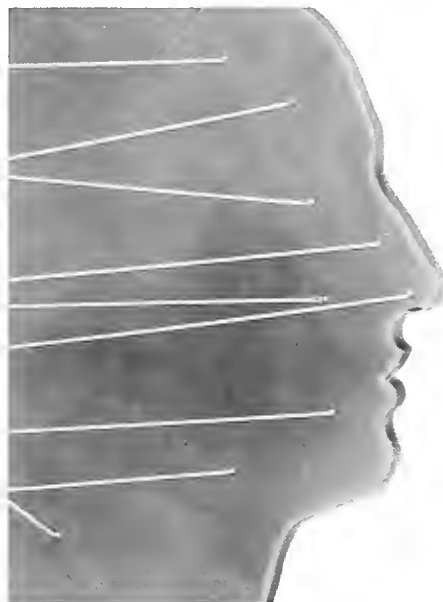
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■ one medication relieves most major cold symptoms

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**Extran/DM Liquid:** each fluid ounce (30 ml.) contains 1000 mg. acetaminophen, 60 mg. pseudoephedrine HCl, 4 mg. chlorpheniramine maleate, 20 mg. dextromethorphan HBr. Contains alcohol 20% by volume.



New

# Extran/DM<sup>TM</sup>

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## Comprehensive relief for the complex cold

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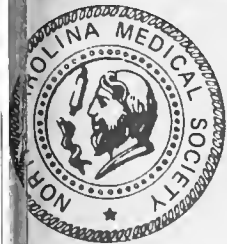
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# PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

NO. 9

FEBRUARY 1981

## Greetings:

Many members of the Medical Society Auxiliary had a busy couple of days in Raleigh last week under the leadership of their President, Ann Rollins of Greensboro. A legislative training program was provided to them Wednesday by John Dees, Chairman of the Committee on Legislation, and Tom Adams, Assistant Executive Director, Public Affairs of the Society staff. Then Thursday at 7:15 a.m.!!!, the Auxiliary hosted a breakfast for the North Carolina Legislators. During the day many Auxiliary members visited the General Assembly and their respective Legislators. We are appreciative of their interest, support, and efforts for good government.

"A Night at the Top," a reception at the Capital City Club, hosted by your Medical Society for the North Carolina Legislators, was well attended on Thursday night by most of the members of the Legislature and many physician members and their spouses. I appreciate such an excellent physician representation from across the state. This activity was organized by John Dees and your Committee on Legislation and coordinated in an excellent fashion by Tom Adams.

Liz Kanof and the Committee on Communications with the able assistance of Kathy Jones, Executive Assistant, Communications of the Society staff, provided an excellent informative program for over 130 physicians who attended the Leadership Conference on Friday. The Leadership Conference for February 1982 will be in Winston-Salem. Plan to attend! It is worthwhile!

I would remind you that while the Legislative Reception was nice and the physicians and legislators visited with each other, the meaningful activity takes place in the local setting. The Republican precinct meetings are on Thursday, March 5, 1981, and the Democratic precinct meetings are on Thursday, March 26, 1981. Both will meet at your local polling place. I would encourage your attendance in your neighborhood.

One part of the cost containment legislation proposed by President Carter contained mechanisms to limit hospital based physician compensation. This legislation, as you know, was defeated. Recently, the bureaucracy, through HCFA, has issued regulations on reimbursement of hospital based physicians. I urge all hospital based physicians to talk with their hospital administrators about these regulations. We all need to keep abreast of these regulations as they will ultimately affect all of us.

Your Executive Council, in its usual good fashion, met for nine hours Friday and Saturday to consider many issues affecting medicine. I am pleased to report an excellent report from your Finance Committee Chairman, Ernest Spangler. NO DUES INCREASE will be recommended to your House of Delegates this May. A dues increase may be necessary in 1983, unless you aid in increasing membership! Share the responsibility and cost of organized medicine by encouraging your fellow physicians, particularly new practitioners, to join the Society.

The Council approved a management study of the Medical Society by the national firm of Booz, Allen, & Hamilton, Inc. A similar appraisal was carried out in 1969. This study will begin promptly and will be reported to the Council upon completion.

Many of the Society membership with good staff support are working on legislative issues. The Legislature, by resolution in spite of the critical News and Observer editorial, requested the Medical Society to supply a physician to be in the Legislative Building Tuesday, Wednesday, and Thursday. This is ongoing as of February 9th. Please let us know if you will come to Raleigh for one day for this important public service. Needless to say, we will accept all volunteers, but would expect for those serving to be able to deal with emergency situations, CPR, etc., should they arise. We, of course, have the legislative update incoming WATS line 1-800-662-7216. Please call for an update. The legislative contact physicians will be called upon frequently with the many issues facing medicine in the Legislature. Please try to stay informed and up-to-date.

Mr. Keith Bulla of the Diversion Investigative Unit, State Bureau of Investigation, P. O. Box 11243, Greensboro, N.C. 27409, addressed the Council. Some of his points you all need to consider in your practice to prevent problems. (1) Pay careful attention to availability of prescription pads. Don't leave them lying around in examining rooms, etc. (2) Record in your patient records all refills and medications prescribed. (3) Be careful who in your office is approving refills---this is a particularly explosive area. (4) Refilling of prescriptions when covering for partners and other physicians requires careful attention and recording. (5) Long term therapy of all kinds, particularly tranquilizers, sedatives, and pain medications, must be reviewed frequently with careful documentation to prevent problems. (6) Discuss with the patients the need or lack of need for medication. Not every patient encounter requires a prescription. Often explanation and reassurance are the most effective modes of treatment.

On the alternate delivery systems, HMOs/IPAs, multiple areas of activity continue. The Blue Cross staff continues to work on development of their physician's plan, while waiting approval of the Insurance Commissioner. The Legislature has not acted upon the Prepaid Commission's report. The request for \$9 million contained in this report was not in the Advisory Commission Budget. The new Fortune Magazine, received this week, has the inside cover and first page devoted to HMO presentation by the Insurance Company of North America.

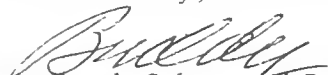
I spoke to a meeting in Raleigh last Friday as part of the voluntary effort program to over 100 employer representatives on cost effective physician/patient relationships. There is concern and interest in the cost of health care!

Dr. Sandra Greene of the Blue Cross and Blue Shield Corp. presented to your Council utilization data information. This data has been developed from their claims file with reference to utilization by county of residence. There is no identification of facility or provider to-date. Striking differences are present in these reports. Many questions will need to be answered with reference to the data. The Blue Cross and Blue Shield Corp. is developing this data in response to demands by employer policyholders for explanation of increasing cost in health care.

DO IT NOW---REPORT YOUR CME ACTIVITIES TO THE HEADQUARTERS OFFICE. FOR THOSE OF YOU IN THE 1978-1980 REPORTING CYCLE, IT IS URGENT IN ORDER TO AVOID AN INTERRUPTION IN YOUR SOCIETY MEMBERSHIP.

LEST YOU FORGET---DEADLINE FOR SUBMISSION OF RESOLUTIONS FOR THE MAY 1981 ANNUAL MEETING IS MARCH 9, 1981. ANY RESOLUTION IDEAS STILL IN FORMATIVE STAGES SHOULD BE COMMITTED IN WRITING AND SUBMITTED TO THE HEADQUARTERS OFFICE FROM YOUR SOCIETY OR FROM AN INDIVIDUAL DELEGATE BY THAT DATE.

Sincerely,

  
Frank Sohmer, M.D.



# YOU DESERVE THE BEST

When it comes to professional liability coverage in North Carolina, one company stands out as best — Medical Liability Mutual Insurance Company of North Carolina — your physician-owned company.

## BEST BECAUSE:

We were the *only* company willing to provide coverage in North Carolina when *all* other competitors were refusing to renew any existing insureds or issue any new business during the malpractice crisis of 1975.

All policy decisions and guidance are provided by North Carolina physicians elected each year by you our policyholders to serve in your interest as our Board of Directors.

As a direct writer representing only you, MLMIC's overhead and administrative expenses consistently average less than 50% of competitors. This leaves more money out of each premium dollar to pay losses.

Rating experience is being compiled that provides competitive rates based on the actual experience of our North Carolina insureds.

**FOR MANY OTHER REASONS WHY MLMIC IS BEST FOR YOU:**

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MARKETING DEPARTMENT

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Raleigh, North Carolina 27611

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An open invitation to  
our friends and col-  
leagues of the N.C.  
Medical Association  
and the Medical As-  
sociation of Georgia

**Something New...In Old Charleston...In the Spring**

## **... the 1981 SCMA Annual Meeting**

- New and expanded continuing medical education credit program at the Medical University of South Carolina, including patient participation.
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- Specialty society sessions; other opportunities to meet your colleagues.
- Gardens, golf, tennis, beaches, charm of Charleston, all in their Springtime glory. Many fun events.
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S.C. MEDICAL ASSOCIATION ANNUAL MEETING & EXHIBITION  
The New Charleston Sheraton — May 13-17

# Pioneers in Medicine For the Family

## **BOOTS PHARMACEUTICALS, INC.**

Operating in the U.S. since 1977, Boots is a world-wide leader in pharmaceutical research and manufacture. Boots has directed its efforts toward providing products useful in the practice of family medicine. Some of our better known products are Lopurin™, Ru-Tuss® and Ru-Vert®. This advertisement highlights four other products particularly useful for the family.

**F-E-P CREME® • SU-TON® • TWIN-K® • TWIN-K-CI™**



For the Majority of  
Steroid-Responsive Dermatoses\*  
Seen in Family Practice

## F-E-P CREME®

(Iodochlorhydroxyquin — Pramoxine HCl — Hydrocortisone)

### The 4 in 1 Corticosteroid Cream

Anti-inflammatory, antifungal, antibacterial actions, and, uniquely, a topical anesthetic for immediate relief of the itching or burning that frequently accompanies skin problems. One size (½ ounce), one strength for ease of prescription.

\*This drug has been evaluated as possibly effective for these indications. See prescribing information on last page of this advertisement.

For the Geriatric Patient

## SU-TON®

### Liquid Tonic

A pleasant tasting prescription tonic containing iron, vitamins, minerals, an analeptic and 18% alcohol. Ideal for those who may benefit from vitamin deficiency prevention. Just one tablespoon before each meal.

Each 45 ml (3 tablespoonfuls) contains:

Pentylentetrazol.	30 mg
Niacin.	50 mg
Vitamin B-1.	10 mg
Vitamin B-2.	5 mg
Vitamin B-6.	1 mg
Vitamin B-12.	3 mcg
Choline.	100 mg
Inositol.	50 mg
Manganese (as Manganese Sulfate).	1 mg
Magnesium (as Magnesium Sulfate).	2 mg
Zinc (as Zinc Sulfate).	1 mg
Iron (as Ferric Pyrophosphate, Soluble).	22 mg
Alcohol.	18%

See prescribing information on last page of this advertisement.



## Potassium Supplementation Improved Compliance...

### TWIN-K®

Each 15 ml supplies 20 mEq of potassium ions as a combination of potassium gluconate and potassium citrate in a sorbitol and saccharin solution.

A good tasting potassium supplement designed for prophylactic and therapeutic use with diuretics and adrenocorticoids. Pleasant taste and convenient dosage aid patient compliance.

The organic salt of potassium can be given as a fluid without producing significant gastric symptoms and without an untoward effect on the mucosa of the small intestine.<sup>1</sup>

Beaton-McDermott, Textbook of Medicine, 15th Ed. 1979, W.B. Saunders Co., Philadelphia, page 1959.

## In Cases with Chloride Deficiency...

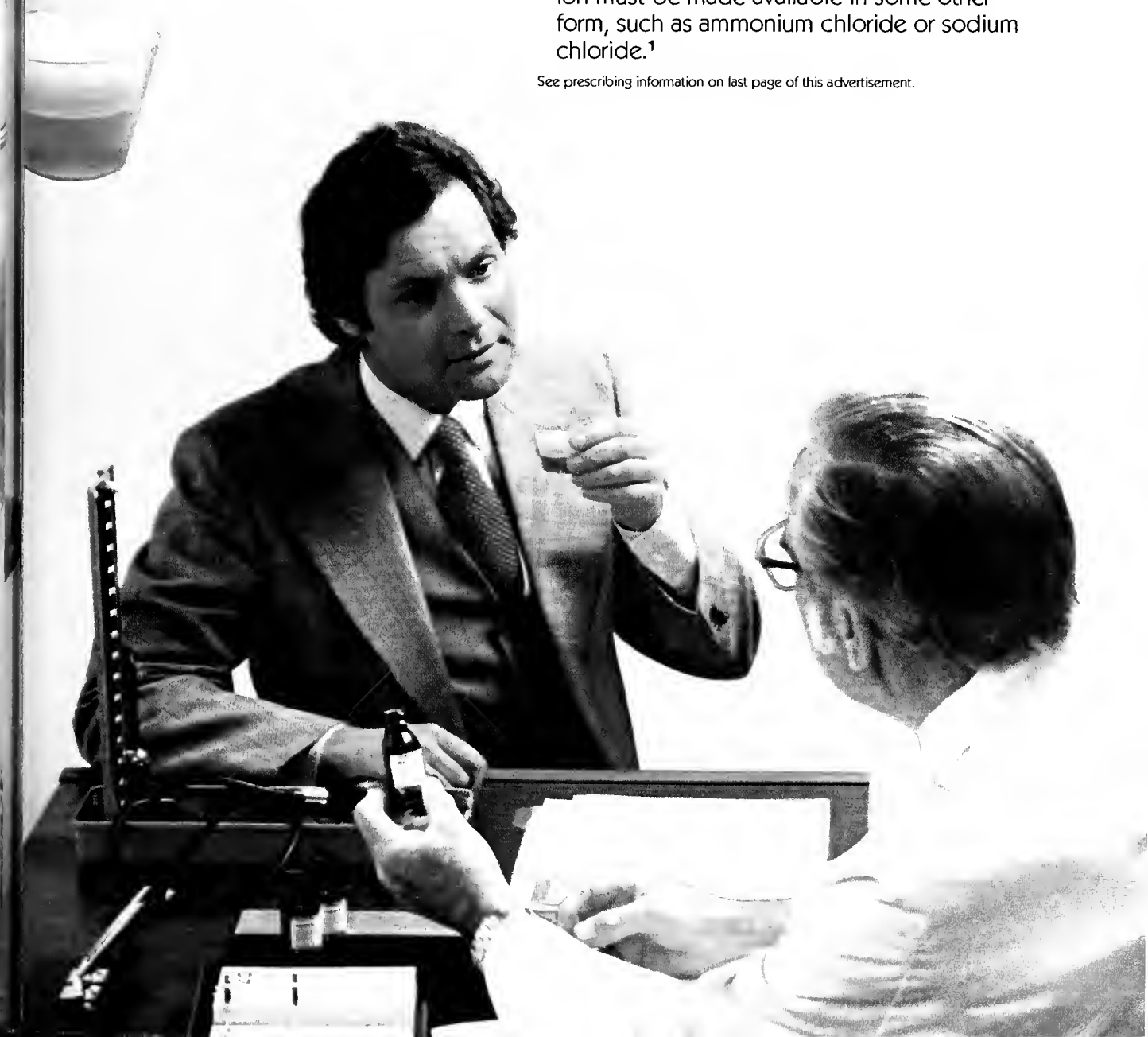
### TWIN-K-Cl™

Each 15 ml supplies 15 mEq of potassium ions and 4 mEq of chloride ions as a combination of potassium gluconate, potassium citrate, and ammonium chloride in a sorbitol and saccharin solution.

The good tasting potassium supplement with chloride

- In hypokalemic hypochloremic alkalosis, chloride ions are required. Twin-K-Cl is specially formulated to be a good tasting chloride containing potassium supplement.
- Contains no potassium chloride. Twin-K-Cl is a carefully balanced combination of organic potassium salts plus ammonium chloride.
- In hypochloremic patients, potassium should be provided as the chloride salt, or chloride ion must be made available in some other form, such as ammonium chloride or sodium chloride.<sup>1</sup>

See prescribing information on last page of this advertisement.





## F-E-P CREME

### DESCRIPTION

F-E-P Creme is a topical water soluble anti-inflammatory, anesthetic preparation intended for treatment of various inflammatory skin disorders. The drug contains the following active ingredients:

Iodochlorohydroxyquin	3.0%
Pramoxine Hydrochloride	0.5%
Hydrocortisone	1.0%

### INDICATIONS AND USAGE

Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the indications as follows: "Possibly" effective: Contact or atopic dermatitis; impetiginized eczema; nummular eczema; infantile eczema; endogenous chronic infectious dermatitis; stasis dermatitis; pyoderma, nuchal eczema and chronic eczematoid otitis externa, acne urtica; localized or disseminated neurodermatitis; lichen simplex chronicus; anogenital pruritus (vulvae, scroti, ani), folliculitis; bacterial dermatoses; mycotic dermatoses such as tinea (capitis, cruris corporis, pedis); moniliasis; intertrigo. Final classification of the less-than-effective indications requires further investigation.

Pramoxine Hydrochloride promptly relieves pain and itch. This compound may be used safely on the skin of those patients sensitive to the "caine" type local anesthetics.

### CONTRAINDICATIONS

Hypersensitivity to F-E-P Creme, or any of its ingredients or related compounds; lesions of the eye; tuberculosis of the skin; most viral skin lesions (including herpes simplex, vaccinia and varicella).

### WARNINGS

This product is not for ophthalmic use.

In the presence of systemic infections, appropriate antibiotics should be used.

### USE IN PREGNANCY

Topical steroids have not been reported to have an adverse effect on pregnancy. However, fetal abnormalities have been produced in pregnant laboratory animals that have been exposed to large doses of topical corticosteroids. Drugs of this class should not be used extensively during pregnancy.

### PRECAUTIONS

F-E-P Creme may be irritating to the skin in some patients. If irritation occurs discontinue therapy. Staining of clothes or hair may also occur with use of this preparation. Although systemic toxicity has not been reported with this drug, adrenal pituitary suppression is possible, especially when the drug is used extensively or kept under an occlusive dressing for a prolonged period.

Iodochlorohydroxyquin can be absorbed through the skin and interfere with thyroid function tests. Therapy with this preparation should stop at least a month before performance of these tests. The ferric chloride test for phenylketonuria (PKU) can be positive if F-E-P Creme is on the diaper or in the urine.

Prolonged use of this drug may result in an overgrowth of non-susceptible organisms requiring appropriate therapy.

### ADVERSE REACTIONS

Skin rash or hypersensitivity may occur following topical application.

The following local adverse reactions have been reported with topical corticosteroids, especially under occlusive dressings: burning, itching, irritation, dryness, folliculitis, hypertrichosis, acneiform eruptions, hypopigmentation, perioral dermatitis, allergic contact dermatitis, maceration of the skin, secondary infection, skin atrophy, striae, miliaria. Discontinue therapy if untoward reactions occur.

### DOSE AND ADMINISTRATION

Apply a thin layer of the drug to affected parts 3-4 times daily.

### Note:

1. F-E-P Creme is distributed with 3.0% iodochlorohydroxyquin for use when antibacterial/antifungal activity is desired.
2. F-E-P Creme (Plain) is the regular formulation, but without iodochlorohydroxyquin.

Both of these preparations contain pramoxine hydrochloride, which has topical anesthetic properties. Pramoxine is not chemically related to benzoic acid or amide type topical anesthetics. Patients can tolerate pramoxine although they may be sensitive to other "caine" type of topical or local anesthetics.

### HOW SUPPLIED

F-E-P Creme 1/2 ounce (15 gm) tubes NDC 0584-0096-51  
F-E-P Creme (Plain) 1/2 ounce (15 gm) tubes NDC 0584-0095-51

Federal law prohibits dispensing without a prescription.  
July 1980

## SU-TON®

### DESCRIPTION

Forty-five milliliters of SU-TON contain the following ingredients:

Pentylenetetrazol	30 mg
Niacin	50 mg
Vitamin B-1	10 mg
Vitamin B-2	5 mg
Vitamin B-6	1 mg
Vitamin B-12	3 mcg
Choline	100 mg
Inositol	50 mg
Manganese (as Manganese Sulfate)	1 mg
Magnesium (as Magnesium Sulfate)	2 mg
Zinc (as Zinc Sulfate)	1 mg
Iron (as Ferric Pyrophosphate, Soluble)	52 mg
Alcohol	18%

### INDICATIONS AND USAGE

SU-TON contains pentylenetetrazol which may be helpful in the older patient as an anesthetic agent when mental confusion and memory defects are present. SU-TON also contains vitamins, trace minerals, and iron, for those patients who may benefit by preventing the development of a deficiency.

### CONTRAINDICATIONS

Epilepsy, convulsive disorders or known history of sensitivity to any of the listed active ingredients.

### WARNINGS

The safety of this preparation during pregnancy and lactation has not been established. Use of this drug requires that the physician evaluate the potential benefits of the drug against any possible hazard to the mother and child.

### PRECAUTIONS

Although there is no absolute contraindication to pentylenetetrazol, it should be used with caution in epileptic patients or those known to have a low convulsive threshold or a focal brain lesion. Caution should be exercised when treating patients with high doses of SU-TON who have heart disease. While pentylenetetrazol does not act directly on the myocardium, the results from central vagal stimulation could cause bradycardia.

### ADVERSE REACTIONS

Pentylenetetrazol in high doses may produce toxic symptoms typical of central nervous system stimulants, which act on the higher motor centers and the spinal cord. Convulsions resulting from this drug are spontaneous and are not induced by external stimuli. They usually last for several minutes and are followed by profound depression and respiratory paralysis. Death has been reported from the ingestion of 10 grams of pentylenetetrazol.

### DRUG ABUSE

Drug dependence has not been reported with SU-TON.

### OVERDOSE

Signs and symptoms of acute overdose may be due principally from overstimulation of the central nervous system and from excessive vasodilatation with resulting autonomic nervous system imbalance. The symptoms may include the following: vomiting, agitation, tremors, hyperreflexia, sweating, confusion, hallucinations, headache, hyperreflexia, tachycardia. Treatment consists of appropriate supportive measures. If signs and symptoms are not too severe and the patient is conscious, gastric evacuation may be accomplished by induction of emesis or gastric lavage.

Intensive care must be provided to maintain adequate circulation and respiratory exchange.

### DOSE AND ADMINISTRATION

One tablespoonful (15 ml) 3 times a day 20-30 minutes before meals. This drug is not for use in children under 12 years of age.

### HOW SUPPLIED

Bottles of 473 ml (16 fl oz) NDC 0524-0015-16  
Federal law prohibits dispensing without prescription.  
February 1980

## TWIN-K®

### DESCRIPTION

Each 15 milliliter (one tablespoonful) supplies 20 mEq of potassium ions as a combination of potassium gluconate and potassium citrate in a sorbitol and saccharin solution.

### INDICATIONS AND USAGE

For use as oral potassium therapy in the prevention or treatment of hypokalemia which may occur secondary to diuretic or corticosteroid administration. It may be used in the treatment of cardiac arrhythmias due to digitalis intoxication.

### CONTRAINDICATIONS

Severe renal impairment with oliguria or azotemia, untreated Addison's disease, adynamia episodica hereditaria, acute dehydration, heat cramps and hyperkalemia from any cause. This product should not be used in patients receiving aldosterone antagonists or triamterene.

### WARNINGS

TWIN-K (potassium gluconate and potassium citrate) is a palatable form of oral potassium replacement. It appears that little if any potassium gluconate-citrate penetrates as far as the jejunum or ileum where enteric coated potassium chloride lesions have been noted. Excessive, undiluted doses of TWIN-K may cause a saline laxative effect.

To minimize gastrointestinal irritation, it is recommended that TWIN-K be taken with meals or diluted with water or fruit juice. A tablespoonful (15 ml) in 8 ounces of water is approximately isotonic. More than a single tablespoonful should not be taken without prior dilution.

### PRECAUTIONS

Potassium is a major intracellular cation which plays a significant role in body physiology. The serum level of potassium is normally 3.8-5.0 mEq/liter. While the serum or plasma level is a poor indicator of total body stores, a plasma or serum level below 3.5 mEq/liter is considered to be indicative of hypokalemia.

The most common cause of hypokalemia is excessive loss of potassium in the urine. However, hypokalemia can also occur with vomiting, gastric drainage and diarrhea.

Usually a potassium deficiency can be corrected by oral administration of potassium supplements. With normal kidney function, it is difficult to produce potassium intoxication by oral administration. However, potassium supplements must be administered with caution since, usually, the exact amount of the deficiency is not accurately known. Checks on the patient's clinical status and periodic EKG and/or serum potassium levels should be made. High serum potassium levels may cause death by cardiac depression, arrhythmias or arrest.

In patients with hypokalemia who also have alkalosis and a chloride deficiency (hypokalemic hypochloremic alkalosis), there will be a requirement for chloride ions. TWIN-K is not recommended for use in these patients.

### ADVERSE REACTIONS

Symptoms of potassium intoxication include paresthesias of the extremities, flaccid paralysis, listlessness, mental confusion, weakness and heaviness of the legs, fall in blood pressure, cardiac arrhythmias and heart block. Hyperkalemia may exhibit the following electrocardiographic abnormalities: disappearance of the P wave, widening and slurring of the QRS complex, changes of the ST segment and tall peaked T waves.

TWIN-K taken on an empty stomach in undiluted doses larger than 30 ml can produce gastric irritation with nausea, vomiting, diarrhea, and abdominal discomfort.

### OVERDOSE

The administration of oral potassium supplements to persons with normal kidney function rarely causes serious hyperkalemia. However, if the renal excretory function is impaired, potentially fatal hyperkalemia can result. It is important to note that hyperkalemia is usually asymptomatic and may be manifested only by an increased serum potassium concentration with or without EKG changes. Treatment measures include:

1. Elimination of potassium containing drugs or foods.
2. Intravenous administration of 300 to 500 mEq of a 10% dextrose solution containing 10-20 units of crystalline insulin per 1000 milliliters.
3. Correction of acidosis.
4. Use of exchange resins or peritoneal dialysis.

In treating hyperkalemia, it should be noted that patients stable on digitalis can develop digitalis toxicity when the serum potassium concentration is changed too rapidly.

### DOSE AND ADMINISTRATION

The usual adult dosage is one tablespoonful (15 ml) in 6-8 ounces of water or fruit juice, two to four times a day. This will supply 40 to 80 mEq of potassium ions. The usual preventive dose of potassium is 20 mEq per day while therapeutic doses range from 30 mEq to 100 mEq per day. Because of the potential for gastrointestinal irritation, undiluted large single doses (30 ml or more) of TWIN-K are to be avoided.

Deviations from this schedule may be indicated, since no average total daily dose can be defined, but must be governed by clinical observation for clinical effects.

### HOW SUPPLIED

Bottles of 1 pint (16 fl oz)

NDC 0524-0001

### CAUTION

Federal law prohibits dispensing without prescription.  
July 1980

## TWIN-K-CI™

### DESCRIPTION

Each 15 ml (one tablespoonful) supplies 15 mEq of potassium ions and 4 mEq of chloride ions as a combination of potassium gluconate, potassium citrate, and ammonium chloride, in a sorbitol and saccharin solution.

### INDICATIONS

For use as oral potassium therapy in the prevention or treatment of hypokalemia which may occur secondary to diuretic or corticosteroid administration. It may be used in the treatment of cardiac arrhythmias due to digitalis intoxication.

Potassium and chloride are usually the salts of choice in the treatment of hypokalemia since chloride and potassium deficiencies are likely to be associated with each other.

### CONTRAINDICATIONS

Severe renal impairment with oliguria or azotemia, untreated Addison's disease, adynamia episodica hereditaria, acute dehydration, heat cramps and hyperkalemia from any cause. This product should not be used in patients receiving aldosterone antagonists or triamterene.

### WARNINGS

TWIN-K-CI is a palatable form of oral potassium replacement. Excessive, undiluted doses of TWIN-K-CI may cause a saline laxative effect.

To minimize gastrointestinal irritation, it is recommended that TWIN-K-CI be taken with meals or diluted with water or fruit juice. A tablespoonful (15 ml) in 8 ounces of water is approximately isotonic. More than a single tablespoonful should not be taken without prior dilution.

### PRECAUTIONS

Potassium is a major intracellular cation which plays a significant role in body physiology. The serum level of potassium is normally 3.8-5.0 mEq/liter. While the serum or plasma level is a poor indicator of total body stores, a plasma or serum level below 3.5 mEq/liter is considered to be indicative of hypokalemia. The most common cause of hypokalemia is excessive loss of potassium in the urine. However, hypokalemia can also occur with vomiting, gastric drainage and diarrhea.

Usually a potassium deficiency can be corrected by oral administration of potassium supplements. With normal kidney function, it is difficult to produce potassium intoxication by oral administration. However, potassium supplements must be administered with caution since, usually, the exact amount of the deficiency is not accurately known. Checks on the patient's clinical status and periodic EKG and/or serum potassium levels should be made. High serum potassium levels may cause death by cardiac depression, arrhythmias or arrest.

In patients with hypokalemia who also have alkalosis and a chloride deficiency (hypokalemic hypochloremic alkalosis), there will be a requirement for chloride ions. TWIN-K-CI is recommended for use in these patients.

### ADVERSE REACTIONS

Symptoms of potassium intoxication include paresthesias of the extremities, flaccid paralysis, listlessness, mental confusion, weakness and heaviness of the legs, fall in blood pressure, cardiac arrhythmias and heart block. Hyperkalemia may exhibit the following electrocardiographic abnormalities: disappearance of the P wave, widening and slurring of the QRS complex, changes of the ST segment and tall peaked T waves.

TWIN-K-CI taken on an empty stomach in undiluted doses larger than 30 ml can produce gastric irritation with nausea, vomiting, diarrhea, and abdominal discomfort.

### OVERDOSE

The administration of oral potassium supplements to persons with normal kidney function rarely causes serious hyperkalemia. However, if the renal excretory function is impaired, potentially fatal hyperkalemia can result. It is important to note that hyperkalemia is usually asymptomatic and may be manifested only by increased serum potassium concentration with or without EKG changes.

### Treatment measures include:

1. Elimination of potassium containing drugs or foods.
2. Intravenous administration of 300 to 500 mEq of a 10% dextrose solution containing 10-20 units of crystalline insulin per 1000 milliliters.
3. Correction of acidosis.
4. Use of exchange resins or peritoneal dialysis.

In treating hyperkalemia, it should be noted that patients stable on digitalis can develop digitalis toxicity when the serum potassium concentration is changed too rapidly.

### DOSE AND ADMINISTRATION

The usual adult dosage is one tablespoonful (15 ml) in 6-8 ounces of water or fruit juice, two to four times a day. This will supply 30 to 60 mEq of potassium ions and 8 to 16 mEq of chloride ions. The usual preventive dose of potassium is 20 mEq per day while therapeutic doses range from 30 mEq to 100 mEq per day. Because of the potential for gastrointestinal irritation, undiluted large single doses (30 ml or more) of TWIN-K-CI are to be avoided.

Deviations from this schedule may be indicated, since no average total daily dose can be defined, but must be governed by clinical observation for clinical effects.

### HOW SUPPLIED

Bottles of 1 pint (16 fl oz)

NDC 0524-0002

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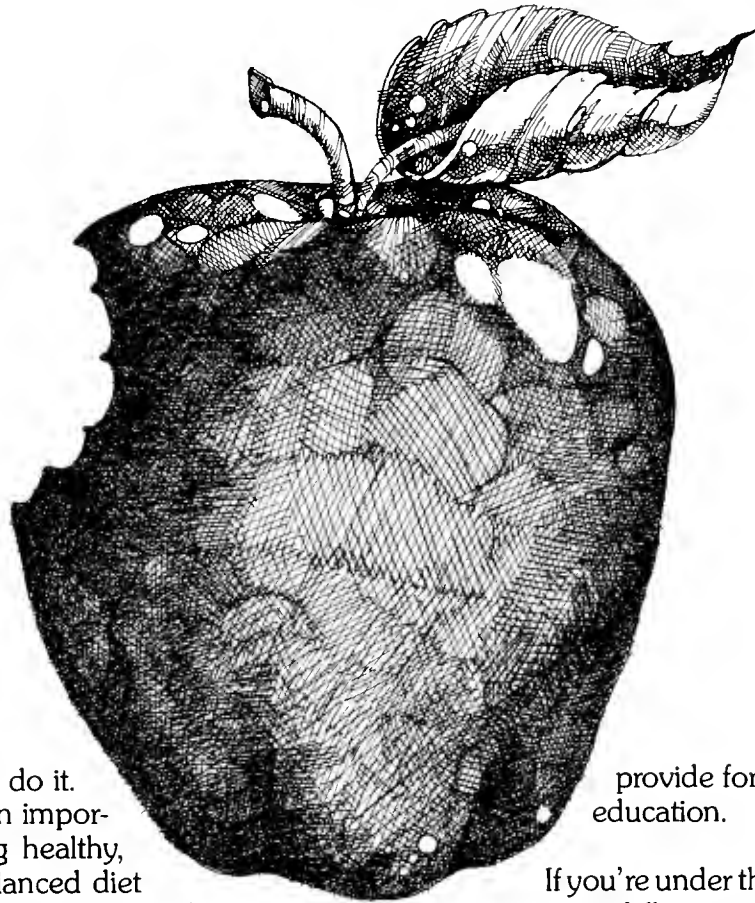
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Shreveport, Louisiana 71106

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# Will an apple a day keep the doctor away?



Apples alone won't do it. Good nutrition is an important part of staying healthy, but even a well-balanced diet can't guarantee that an unexpected accident or sickness won't happen to you. You can help keep your financial picture healthy by planning ahead for a time when you may be disabled and your income is disrupted.

As a member of the North Carolina Medical Society, you are eligible to apply for Disability Income Protection for younger doctors. This plan can provide you with a regular monthly benefit when a covered sickness or injury keeps you from your practice. You can use your benefits any way you choose — to buy groceries, make house or car payments or

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If you're under the age of 55 and are active full time in your practice, simply fill out the coupon below and return it today. Mutual of Omaha, underwriter of this plan, will provide personal, courteous service in furnishing full details of coverage. Of course, there's no obligation.

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Mutual of Omaha Plaza  
Omaha, Nebraska 68175

Please provide me complete information on the Disability Income Protection Plan available to members of the North Carolina Medical Society who are under age 55.

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City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_



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2118 Pinewood Circle, Charlotte 28211

*Surgery* ..... RICHARD T. MYERS, M.D.  
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**PRECAUTIONS:** As with other antibacterial preparations, prolonged use may result in overgrowth of non-susceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

**ADVERSE REACTIONS:** Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section). Complete literature available on request from Professional Services Dept. PML.



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nents alone is rare. (For a complete list of side effects reported with Limbitrol, please consult full disclosure.)

**References:** 1. Paulson GW: *NY State J* 79:193-195, Feb 1979. 2. Hollister LE: Antipsychotic medications and the treatment of schizophrenia, chap. 9, in *Psychopharmacology: From Theory to Practice*, edited by Barch et al. New York, Oxford University Press, pp.134, 145. 3. Domino EF: Antipsychotic phenothiazines, thioxanthenes, butyrophenones and rauwolfia alkaloids, chap. 25, in *Drugs in Pharmacology in Medicine*, ed. 4, edited by DiPalma JR. New York, McGraw-Hill Book Company, 1971, p.476. 4. Sovner R: D Extrapyramidal syndromes and other side effects of psychotropic drugs, in *Psychopharmacology: A Generation of Progress*, Lipton MA, DiMascio A, Kilham KE, New York, Raven Press, 1978, p.1021. 5. Donlon Stenson RL: *Dis Nerv Syst* 37: 629-637, 1976.

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Please see summary of product information on following page.



## LIMBITROL® TABLETS Tranquilizer—Antidepressant

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Relief of moderate to severe depression associated with moderate to severe anxiety.  
**Contraindications:** Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use, then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.

**Warnings:** Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

**Usage in Pregnancy:** Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage, withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline, symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).

**Precautions:** Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated.

Sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy.

Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.

**Adverse Reactions:** Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs: **Cardiovascular:** Hypertension, hypotension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

**Psychiatric:** Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.

**Neurologic:** Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.

**Anticholinergic:** Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.

**Allergic:** Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.

**Hematologic:** Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.

**Gastrointestinal:** Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.

**Endocrine:** Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels.

**Other:** Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

**Overdosage:** Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

**Dosage:** Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single h.s. dose may suffice for some patients. Lower dosages are recommended for the elderly.

Limbitrol 10-25, initial dosage of three to four tablets daily in divided doses, increased up to six tablets or decreased to two tablets daily as required. Limbitrol 5-12.5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher doses.

**How Supplied:** White, film-coated tablets, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) and blue, film-coated tablets, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt) — bottles of 100 and 500, Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10, Prescription Paks of 50.

## How to initiate and maintain therapy

### Select dosage strength appropriate for each patient

- ☐ Limbitrol 5-12.5 is recommended to minimize drowsiness and for elderly patients.
- ☐ Limbitrol 10-25 may be indicated for patients who tolerate medication without undue side effects.

### Specify daily dosage based on symptom severity

- ☐ An initial dosage of three tablets is recommended.
- ☐ Dosage may be increased to six tablets or decreased to two tablets daily as necessary.
- ☐ Once a satisfactory response is obtained, patients should be continued on the smallest dose required to maintain the desired effect.

### Utilize dosage options to best accommodate individual patient needs

- ☐ T.I.D. or Q.I.D., familiar regimens most suited for patients who tolerate medication without undue drowsiness.
- ☐ Two tablets one hour before bedtime and one tablet midday may minimize daytime drowsiness and help relieve a common target symptom — insomnia.
- ☐ Entire dosage h.s. to take maximum advantage of the sedative effect.

# Your guide to patient management... when you decide medication is needed

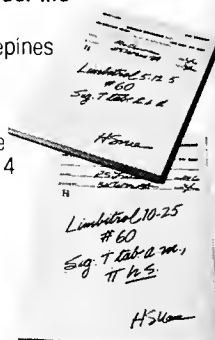
## How to make each patient an informed patient

1. Discuss with patients the probability that they will experience drowsiness, especially during the first week.
2. Reassure your patients that drowsiness is one indication that the medication is working and that it may help alleviate their insomnia.
3. Encourage patients to report if drowsiness becomes troublesome so that, if necessary, dosage schedule can be adjusted.
4. Caution patients about the combined effects with alcohol or other CNS depressants. Let them know that the additive effects may produce a harmful level of sedation and CNS depression.
5. Caution patients about activities requiring complete mental alertness, such as operating machinery or driving a car.
6. Warn pregnant patients and patients of childbearing age that the safety of Limbitrol in pregnancy has not yet been established.

Please see complete product disclosure for other pertinent information.

### Limbitrol should not be used under the following circumstances:

1. Hypersensitivity to benzodiazepines or tricyclic antidepressants.
2. Concomitantly with an MAO inhibitor. To replace an MAO inhibitor with Limbitrol, discontinue MAO inhibitor for a minimum of 14 days before cautiously initiating Limbitrol therapy.
3. During the acute recovery phase following myocardial infarction.



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# Spontaneous Brainstem Hematoma—Analysis of Cases Verified by Computed Tomography

Alfred A. DeMaria, Jr., M.D., and Thomas W. Farmer, M.D.

**ABSTRACT** Three patients with spontaneous brainstem hematoma (SBH) verified by computed tomography (CT) seen at North Carolina Memorial Hospital from 1977-1979 are presented. One died 88 hours after admission, but the other two made significant recoveries. The mortality rate in these three patients and eight other previously reported patients with SBH diagnosed by CT was 45%. This contrasts with the 75% to 90% mortality rate reported before the availability of CT. A fatal outcome was related to the early onset of coma. Other factors which may predict a poor outcome include a diastolic blood pressure over 100 mm Hg, a large medial hematoma, temperature above 38.3°C, hydrocephalus and EEG slowing. Patients with SBH should be treated aggressively to increase the number with meaningful survival.

**B**LEEDING into the brainstem may be due to trauma, metabolic disorders, blood dyscrasias, tumors, vascular anomalies, supratentorial lesions or hypertension.<sup>1-4</sup> The term "hematoma" refers to a circumscribed mass of blood which is detectable by CT, while the term "hemorrhage" indicates diffuse, infiltrating blood not detectable by CT.<sup>1,5</sup> Spontaneous bleeding means that no readily apparent underlying cause is present except hypertension, although invasive studies or postmortem examination are not performed to exclude small vascular malformations

or tumors that might be missed by CT.

Only eight cases of CT-verified spontaneous brainstem hematoma (SBH) have been previously reported. Three additional patients are presented here. Factors influencing prognosis are analyzed.

## CASE REPORTS

### Case 1

A 48-year-old woman complained of right leg numbness and nausea, went to the bathroom and was subsequently found on the floor, unresponsive; her past history was unremarkable. On arrival in the emergency room, she was intubated; blood pressure was 300/180, pulse 100, respirations 16 and agonal, rectal temperature 38.4°C. The patient was unresponsive and displayed decerebrate posturing. A soft systolic murmur was heard at the left sternal border. The pupils were 3 mm and reactive to light; the left eye deviated medially and inferiorly. The right fundus revealed no abnormality; the left could not be adequately visualized. Corneal reflexes and caloric responses were absent bilaterally. There was a semi-purposeful response to pinprick on the lower extremities. Both plantar responses were extensor. Deep tendon reflexes were increased in the right lower extremity. There was slight left ventricular prominence on chest x-ray and left ventricular hypertrophy on EKG. Over the next two hours she received intravenous furosemide 40 mg, diazoxide 300 mg, decadron 10 mg, hydralazine 10 mg and mannitol 25 g; blood pressure was then 230/

120. CT revealed increased density in the region of the brainstem (Figure 1A) and slight dilatation of the lateral ventricles (Figure 1B). Steroids were continued and nitroprusside and methyldopa were used to bring the blood pressure to 160/100. Temperature subsequently rose to 39.1°C rectally; appropriate cultures were negative. Thirty-six hours after admission, she displayed spontaneous movement and responded to painful stimuli. An EEG showed diffuse theta and delta slowing. She expired of a respiratory arrest 88 hours after admission. Permission for autopsy was denied.

### Case 2 [reported previously<sup>6</sup>]

A 38-year-old woman with known hypertension of eight years' duration forgot to take her medications



Figure 1A: Unenhanced CT of Case 1 showing blood density in the region of the pons; other views, not shown, showed no extension of blood into the fourth ventricle.

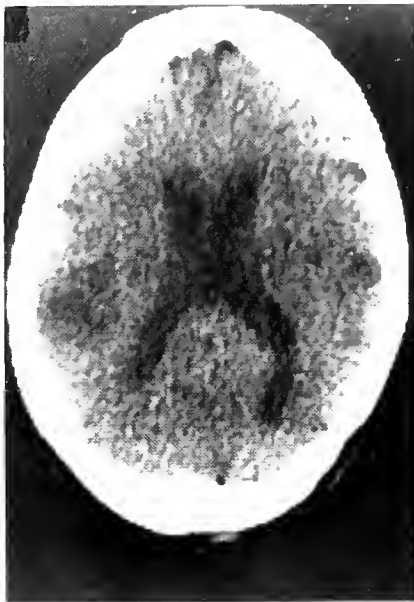


Figure 1B: Unenhanced CT of Case 1 demonstrating mildly enlarged lateral ventricles; there is no evidence of blood in the occipital horns.

for several days and was awakened one morning by a severe headache; she felt something "pop" inside her head and became vertiginous and nauseated, complaining of tinnitus in the left ear and numbness of the left extremities. She was taken to her local emergency room where she was told her blood pressure was elevated, given an unknown medication and sent home. She subsequently noticed the numbness was getting worse and spreading up her trunk. She returned to the local emergency room and was sent to N.C. Memorial Hospital. Past history was otherwise unremarkable, as was the family history except for hypertension in the patient's mother. She smoked a pack of cigarettes per day and drank an average of six beers per day. On arrival in the emergency room, blood pressure was 180/120 (hydralazine 10 mg intramuscularly dropped the pressure to 160/90), pulse was 80, respirations 16 and temperature 36.6°C. She was oriented to person, place and time but was somnolent. General examination was unremarkable except for obesity. Hypesthesia was present on the left side of the body. The eyes were tonically deviated to the left, with bobbing on attempted upward gaze. Pupils

were 1-2 mm, equal and reactive to light. Fundi were unremarkable bilaterally. A Horner's Syndrome was present on the left. The right facial muscles and lateral rectus were parietic. There was slight weakness in all muscle groups of the left leg, but otherwise motor and cerebellar systems were intact. CT demonstrated increased density in the right side of the brainstem (Figure 2). Lumbar puncture was unremarkable except for 16 red cells and a protein of 63 mg%. Other laboratory results were unremarkable except for the presence of a urinary tract infection and hypokalemia, as

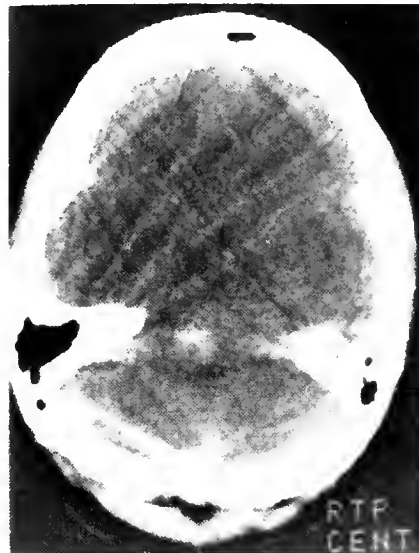


Figure 2: Unenhanced CT of Case 2 showing blood density in the region of the right dorsolateral pons.

well as an enlarged heart on chest x-ray. EKG was normal. Blood pressure was controlled on a diuretic and methyldopa, the patient improved and was discharged after six weeks. Fifteen months after discharge she was ambulatory at home, caring for herself.

### Case 3

This 46-year-old woman had a long history of hypertension and poor compliance with medications, as well as ethanol abuse. She reportedly had been drinking heavily and complaining of occipital headaches prior to being found unable to move except her right arm, but able to converse. She was taken to her

local hospital and admitted. At that time, blood pressure was 270/160 and she received two doses of diazoxide 300 mg intravenously. She was obtunded but responded to verbal stimuli. Pupils were small but reactive to light. The left plantar response was extensor. Glucose ranged as high as 691 mg% (after decadron administration), BUN was 38.6 mg%, creatinine 3.5 mg%, uric acid 11.1 mg% and liver function tests were elevated. Temperature was 38°C and she received ampicillin and decadron. She also received digoxin for episodes of atrial tachycardia. After two days she had stabilized somewhat and was transferred to N.C. Memorial Hospital. She was also noted to have a history of a "warm" thyroid nodule and congestive heart failure. On arrival here, blood pressure was 180/110, pulse was 120, respirations were 24 and temperature was 37.5°C rectally. She followed simple commands. There were bilateral lateral rectus pareses and intermittent skew deviation of the eyes. Pupils were 3 mm and reactive to light. Fundi displayed hypertensive vascular changes. A left facial paresis was present. Spasticity was evident in the legs and less so in the arms. Response to pinprick was intact. Deep tendon reflexes were in-



Figure 3A: Unenhanced CT of Case 3 showing blood density in the region of the pons.

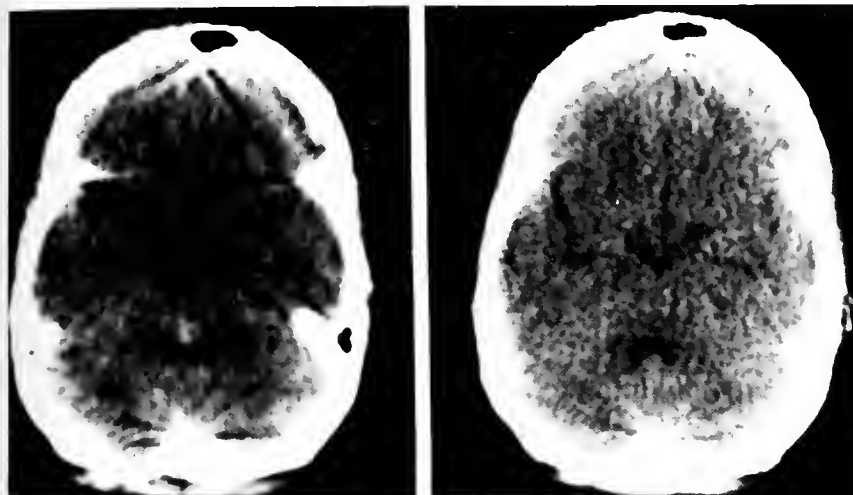


Figure 3B: Unenhanced CT of Case 3 showing no extension of blood into the fourth ventricle.

creased in the right arm and both knees; both plantar responses were extensor. Chest x-ray disclosed cardiac enlargement and EKG demonstrated left ventricular hypertrophy. A routine CT was nor-

mal, but the following day CT was repeated with 4-mm posterior fossa slices, and this disclosed an increased density in the brainstem (Figures 3A and 3B). Blood pressure was controlled and the pa-

tient's condition improved, although she was still dysarthric with a left facial paresis and spasticity and weakness in the legs and arms on discharge six weeks later. Six months after discharge, she was in a nursing home, unable to ambulate without assistance and requiring help with self-care, but able to converse.

## REVIEW OF REPORTED CASES

Analysis of these three cases and eight others (Table 1) yields several important points. Most importantly, SBH is not incompatible with meaningful survival. Five of the eleven patients expired, but the others made substantial recoveries; with more aggressive therapy, mortality might have been even lower. Of course, a bias due to a tendency to report patients with good outcomes cannot be excluded.

Early onset of coma, i.e., within minutes of the ictus, invariably led

TABLE 1  
CASES OF CT-VERIFIED SBH

Author(s)/Year (Reference)	Age/Sex	Level of Conscious- ness on Admission	BP	Temp °C	Therapy	Size/Location of Lesion	Condition 24h After Admission	Associated Conditions	Outcome	Other Observations
Wur, et al. 13 975	59F	superficial coma	250 160	NR	"treated conservatively"	3x2 cm/Pons left of mid- line; V;H	NR	NR	died after 2 days	LP-bloody CSF
6.	58M	awake and cooperative		NR	"conservative treatment"	NR/right side pons; H	became coma- tose over 8 hours	on anticoagu- lants for prior TIA	recovered	EEG-alpha coma; LP: bloody CSF
7.	39M	comatose	160 100	NR	antihypertensive and antiedema agents; ventricular drain	"large"/pons more on right side, H	no change	hypertension	died after 12 days	shunt did not prevent fatal outcome
Freeman, et al., 8, 97	47M	deeply comatose	250 115	39.6	intubation, antihyper- tensive and antiedema agents	large/pons bilateral	NR	hypertension	died after 70 hours	ocular bobbing; LP-clear CSF with increased pressure, protein
Okera et al., 18, 97	45M	comatose		NR	NR	NR	NR	NR	died	NR
Leir and Hilberg, 14, 97	55F	gradually increasing obtusation	130 75	NR	surgery	large/pons midline; V	deteriorated until surgery	previous myo- cardial infarc- tion	recovered	NR
Luhrs, 15, 97	10M	confusion	NR	tever	surgery	large/mesen- cephalon left of midline	deteriorated until surgery	NR	recovered	NR
Wang, 12, 97	67F	lethargic	180 100	NR	diuretics	large/midpons	improved (after 2d)	diabetes mel- litus, hyper- tension	recovered	ocular bobbing; bilateral 6th nerve pareses
Present Report, 1.	48F	deeply comatose	300 180	38.4	antihypertensive and antiedema agents	large/pons midline H	perhaps slight improvement	none known;	died after 88 hours	EEG-diffusely slow
2.	38F	lethargic	180 120	36.6	antihypertensive agents	small/right dorsolateral pons	improved	urinary tract infection; hyper- tension; cardiac arrhythmias	recovered	LP-16RBC's protein 63
3.	46F	lethargic	270 160	38	antihypertensive and antiedema agents	small/midline pons	improved	hypertension; congestive heart failure; dehydra- tion; cardiac ar- rhythmias, ethanol abuse	recovered	none

NR none reported, not reported, or uncertain  
= extension of blood into the ventricles  
= hydrocephalus

to death (5/5 patients) whereas the patient who was not initially comatose had a more favorable outcome (6/6), even if the patient's condition deteriorated later. Size and location of the blood mass as demonstrated by CT also correlated with prognosis: four of seven patients with relatively large, medial hematomas died, whereas three of three with small, lateral lesions survived. All but one of the hematomas were in the pons; the one with a mesencephalic lesion recovered. No CT-verified medullary hematomas were found. The only patient with diastolic blood pressure less than 100 recovered, one of two with diastolic pressure of 100 recovered and only two of five with diastolic pressure over 100 survived. Two patients had temperatures over 38.3°C and both died; two with temperatures less than 38.3°C survived. Of four patients with reported hydrocephalus, only one survived, and shunt placement in one case did not prevent death. Two patients had blood in the ventricles demonstrated by CT; one recovered. Two patients had definitely bloody CSF on LP and one recovered. Two patients had EEGs. One with alpha rhythm recovered; the other with diffuse slowing died.

#### COMMENT

SBH previously has been reported to have a mortality rate over 75% within the first three days, with many survivors left in a vegetative state.<sup>4,7-11</sup> This bleak outlook may be due to derivation of data primarily from autopsy studies, lack of therapeutic modalities and of enthusiasm for treatment. Recent reports of good survival in patients with CT-verified SBH suggest the

prognosis is not always so grave<sup>12,13</sup> and reports of successful surgical intervention<sup>14,15</sup> and improved medical treatment and supportive care portend a better outlook.

Although some authors maintain that the diagnosis of brainstem hematoma (and hemorrhage) can be made on clinical grounds alone,<sup>5</sup> most disagree. The diagnosis has been made by ventriculography/pneumoencephalography<sup>16</sup> and angiography.<sup>7</sup> CT allows safe and accurate documentation of SBH and differentiation from other entities, particularly brainstem infarction and cerebellar hemorrhage. CT may even reveal brainstem hematoma in patients without neurologic signs referable to the brainstem.<sup>17</sup> CT has limitations, however: due to slice thickness, averaging, movement and other artifacts, brainstem hematoma may be missed, as in our Case 3, or the exact size and location may be impossible to determine.<sup>13</sup>

Surgical intervention may be appropriate in selected patients although indications are currently uncertain. Perhaps surgery should be considered in patients with early onset of coma (since there seems to be little to lose) and patients who are rapidly deteriorating despite aggressive medical therapy.

Numbers in this analysis are small (sufficient details on the six patients reported by Dopesh, et al,<sup>17</sup> were not available for inclusion in this report), but our results suggest a prospective study of a large number of patients with CT-verified SBH would provide information crucial to management.

*Addendum:* Since preparation of this manuscript, three additional patients with CT-verified SBH have

been reported (Brismar J, Bengt H, Olle N: Benign brainstem hematoma. *Acta Neurol Scandinav* 60: 178-182, 1979; and Burns J, Lisak R, Schut L, et al: Recovery following brainstem hemorrhage. *Ann Neurol* 7:183-184, 1980). These additional patients further support the conclusions in our paper.

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# Alcohol Abuse: Diagnosis and Treatment

John Ingram Walker, M.D.

**ABSTRACT** Alcoholism is one of the most prevalent conditions to confront the family physician. Nevertheless, because alcoholics have an uncanny ability to cover up their problem, approximately half of cases seen by physicians go undiagnosed. Physical clues of alcohol abuse include unexplained gastrointestinal complaints, injuries, seizures, neuropathies and infections. Treatment begins with a simple, direct and unambiguous confrontation. Alcoholics Anonymous and disulfiram therapy can help the alcoholic achieve total abstinence.

ONE in every 20 patients who visits a family physician suffers from physical or emotional problems associated with alcohol abuse.<sup>1</sup> Almost 20% of all hospital care expenses results from alcohol abuse; untreated alcoholism decreases life expectancy by 10 to 12 years and leads to increased incidence of cirrhosis, cardiovascular disease, pancreatitis, infection, myopathy, neurologic disorders and hematological abnormalities.<sup>2</sup> This article discusses the etiology, diagnosis and treatment of alcoholism.

## ALCOHOLISM

### Etiology

As Vaillant<sup>3</sup> stated, the development of alcoholism is "as multi-determined and as unpredictable as whether an individual will develop tuberculosis, become a violin player, or move to a large city." He

lists eight factors that have been thought to influence alcohol abuse:

1. **Availability.** When alcohol is cheap and readily available consumption goes up.
2. **Onset of Action.** Rapidly absorbed, high proof drinks such as vodka and whiskey lead to drug dependence quicker than less potent beers and wines.
3. **Physical Dependence.** The discomfort of withdrawal symptoms reinforces continued drinking.
4. **Genetic Background.** The risk of alcoholism in the general population of 3% to 5% for males and 0.1% to 1% for females and the high rate of alcoholism of male adoptees in adoption studies leads to the suspicion of X-linked recessive transmission for alcoholism.
5. **Culture.** Higher rates of alcoholism are found in countries that accept drunkenness (Irish and Anglo-Saxon) than those that prohibit drunkenness (Italians and Jews).
6. **Childhood Environment.** Retrospective studies implicate childhood unhappiness as a cause of alcoholism but studies that follow adolescents into middle life fail to confirm these findings. Childhood environment, then, plays less of a role in the etiology of alcoholism than previously thought.
7. **Personality.** While in past studies alcoholics were thought premorbidly to demonstrate passive and dependent traits, more recent prospective research indicates that pre-alcoholic individuals appear more independent and aggressive than individuals who fail to become alcoholics.
8. **Symptom Relief.** While alcoholics claim that drinking reduces tension, depression and loneliness, videotapes made before, during and after alcoholic drinking indicate that chronic alcohol use causes more withdrawal, depressed and anxious behavior than sobriety.

### Diagnosis

The *Diagnostic and Statistical Manual of Mental Disorders* outlines the criteria for alcohol abuse:

1. Continuous or episodic use of alcohol for at least one month
2. Social complications of alcohol abuse are reflected in at least one of the following:
  - a. Difficulties with family or friends over alcohol abuse
  - b. Legal difficulties because of alcohol
  - c. Poor work performance because of alcohol
  - d. Violence demonstrated while intoxicated
  - e. Legal difficulties because of alcohol
3. Either of the following:
  - a. Compelling desire to use alcohol
  - b. Pathological pattern of use demonstrated by drinking binges lasting two or more days, black-out spells while intoxicated, ingestion of a fifth of alcohol or its equivalent in one 24 hour period, or drinking non-beverage alcohol (shaving lotion, hair oil, etc.).

The diagnostic criteria for alcohol dependence include all of the above plus:

1. Diminished effect of alcohol with regular use of the same dose or
2. Development of alcohol with-

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drawal characterized by tremor and malaise relieved by drinking

According to Vaillant<sup>3</sup> more than half of the alcoholics seen by physicians go undiagnosed. He cites several reasons for this failure in diagnosis, among them being the alcoholic's convincing denial of abuse. Alcoholics have an uncanny ability to cover up their problem. Physical clues of alcohol abuse include<sup>1</sup>:

1. Early morning vomiting or vague abdominal pain and diarrhea
2. Bruises, sprains and injuries of questionable origin
3. "Blackouts," peripheral neuropathy, or sudden onset of seizures
4. Chronic cough, infections, palpitations, or frequent illnesses (usually occurring on Monday)
5. Seborrhea and rosacea
6. Generalized depression and anxiety

### *Treatment*

Treatment of the alcoholic begins with a simple, direct and unambiguous confrontation.<sup>5</sup> Ofttimes, because of the alcoholic's denial and his inability to conceive of life without alcohol, many confrontations by both the physician and the family will be necessary before the patient can begin to associate his drinking as the cause, rather than the result, of many major problems in his life. The physician must have the courage of his convictions and deal with the patient's denial head-on while, at the same time, expressing warmth and concern for the patient and the belief that the patient can be helped. Since most alcoholics postpone a decision to abstain until a major crisis forces the issue, the physician must chip away at the patient's denial so that when the crisis occurs the patient will be better prepared to seek treatment.

**Alcohol Withdrawal.** After the patient admits to a drinking problem, the first step involves withdrawal of alcohol. Physiological withdrawal, usually beginning 6 to 24 hours following the cessation of heavy drinking, can be identified by

sweating, tachycardia, agitation, confusion and hyperventilation. In severe cases hallucinations and delusions occur. Grand mal seizures represent the most violent demonstration of alcohol withdrawal.

Those patients exhibiting 1) disorientation, 2) seizures, 3) marked psychomotor agitation, 4) severe hypertension, or 5) hallucinations should be hospitalized for detoxification.<sup>6</sup> Patients with moderate withdrawal symptoms can be managed on an outpatient basis provided they receive immediate medication. The administration of diazepam (10 to 20 mg every four to six hours) or chloridiazepoxide (50 to 100 mg every four to six hours) provides a safe and effective treatment for alcohol withdrawal. Physiologic signs, rather than complaints of the patient, should be used as a guide for additional medication.

Less cardiotoxic than the other antipsychotics, haloperidol 1-5 mg intramuscularly every 1 to 4 hours as needed can be used to control hallucinations, delusions and extreme agitation. In those patients with hypomagnesemia characterized by a marked tremor, lowered seizure threshold, and serum magnesium levels less than 2.0 mEq/liter, magnesium sulfate can be given in doses of 2 to 4 ml of 50% magnesium sulfate in every 8 hours for at least three doses.<sup>7</sup> Ineffective for routine use, phenytoin can be given prophylactically in a patient with a seizure history. To prevent seizures requires a loading dose of a gram of phenytoin in 500 cc of five percent dextrose and water given intravenously over a one-to-four-hour period; this loading dose is followed by 400 mg of phenytoin daily. Korsakoff's psychosis can be aborted with the administration of 100-200 mg of thiamine (Vitamin B<sub>1</sub>) IM or IV and continued orally for at least three days; in addition, all patients should receive 1-5 mg of folic acid along with a multi-vitamin supplement.<sup>8</sup>

**Chronic Care.** Once the alcohol withdrawal syndrome has been treated the patient needs to travel the hard and narrow path of total

abstinence. Abstinence can best be achieved in one of two ways — Alcoholics Anonymous (AA) or disulfiram (Antabuse) therapy, or, most effectively, the combination of both.

In recommending AA, the physician should keep in mind that most patients refuse to attend a meeting unless accompanied by someone. The physician can ask for the patient's permission to call on an AA member to take the patient to the first meeting. The physician might say:

"You have a special disease that is going to need long term expert care. Alcoholics Anonymous has by far the best record in treating alcoholics. Can I call an outstanding citizen in our community who is also an AA member and who I know has helped many people like you and ask him to visit you tonight?"

To be persuasive, the physician should be familiar with a few facts concerning AA. Founded in 1935 by two alcoholics, Bill W. and Dr. Bob, both of whom became abstinent through a "fundamental spiritual change," the organization has grown to over 10,000 groups with more than a million members.<sup>9</sup> AA emphasizes both group and individual treatment approaches. Meetings are devoted to testimonials and discussions of the problems of drink. Through mutual help and reassurance, the alcoholic gains a new sense of confidence and more successful coping abilities.

Of those attending one AA meeting just less than half continue to attend meetings for three months, but the alcoholic that has regular attendance for 90 days has a 50% chance of remaining sober for at least one year. An extensive survey conducted by the General Service Office of Alcoholics Anonymous<sup>10</sup> found that approximately 40% of those in attendance at a typical AA meeting have been sober for less than a year, another 40% have been sober for one to five years, and the remaining 20% have been sober for more than five years.

For patients who drink impulsively, disulfiram (Antabuse) may be a useful adjunct to AA. Disulfiram blocks an intermediary step in



alcohol metabolism leading to the accumulation of acetaldehyde in the body so that extreme discomfort, nausea, vomiting, headache and dizziness occurs in an individual who drinks only a small amount of alcohol within a two week period taking disulfiram. The initial dose of disulfiram is 500 mg a day for one week followed by 250 mg daily thereafter. Contraindications include:

Myocardial disease

Recent coronary occlusion

Psychoses

Hypersensitivity to the drug

Ingestion of metronidazole (Flagyl), paraldehyde, or alcohol within the past 24 hours

Because alcoholics have been known to change their minds be-

tween leaving the physician's office and arriving at the pharmacy with the prescription for disulfiram, it is best that the physician give the patient the first dose of the medication while that patient is still in the office. Having the patient sign a contract of agreement to remain on the medication helps motivate the patient to continue with therapy. Encouraging the patient to take the daily dose of medication when the spouse is present is an additional incentive for maintaining abstinence.

AA and Antabuse are effective therapeutic modalities. Alcoholism, however, is a chronic relapsing condition and even with the best of conditions the patient may begin drinking again. If a relapse occurs

the physician should take an optimistic view expressing the belief that the patient can achieve a longer period of abstinence the next time.

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#### Hemophilia

About seventy or eighty years ago, a woman by the name of Smith, settled in the vicinity of Plymouth, New Hampshire, and transmitted the following idiosyncrasy to her descendants. It is one, she observed, to which her family is unfortunately subject, and has been the source not only of great solicitude, but frequently the cause of death. If the least scratch is made on the skin of some of them, as mortal a hemorrhage will eventually ensue as if the largest wound is inflicted. The divided parts, in some instances, have had the appearance of uniting, and have shown a kind disposition to heal; and, in others, cicatrization has almost been perfect, when, generally about a week from the injury, an hemorrhage takes place from the whole surface of the wound, and continues several days, and is then succeeded by effusions of serous fluid; the strength and spirits of the person become rapidly prostrate; the countenance assumes a pale and ghastly appearance; the pulse loses its force, and is increased in frequency; and death, from mere debility, then soon closes the scene. Dr. Rogers attended a lad, who had a slight cut on his foot, whose pulse "was full and frequent" in the commencement of the complaint, and whose blood "seemed to be in a high state of effervescence." So assured are the members of this family of the terrible consequences of the least wound, that they will not suffer themselves to be bled on any consideration, having lost a relation by not being able to stop the discharge occasioned by this operation. — John C. Otto, 1803.



# SPECIAL ARTICLE

## The Physician and Spouse, Physician, Know Thyself—And Thy Mate

### First of Three Parts

W. P. Wilson, M.D.,\* and D. B. Larson, M.D.\*\*

**ABSTRACT** Physicians are acknowledged leaders in their society. As such they are expected to resist the decline in moral values that is occurring. To do this they need to look at their lives objectively in order that they may apply correctives. Physicians are uniquely privileged to see all dimensions of life in its full trajectory from conception to death. They can then empirically document the value of maintaining a stable, fulfilling marriage and the rearing of children of worth. Physicians live in a world of stress where demands made by their patients distract them from their duties as husbands and fathers. Society expects them to lead in civic and social causes. All these combine to create a less than ideal lifestyle if their coping mechanisms are inadequate.

**T**HROUGHOUT recorded history the shaman, the medicine man, and the physician have occupied special places in their respective societies. Because they combat the evil forces of disease and death, they are afforded unusual rights and privileges and are

held in high esteem. Because their relationship with their patients is unusually close, they are expected to be virtuous and to set examples of moral behavior that will be standards for those who come to them for help. If they fail to live up to the expectations of their society, they are condemned and stripped of their prerogatives. The principle of *noblesse oblige* has been applied to leaders of every society.<sup>1</sup> In our society this principle is summed up in the Biblical statement that a leader (in the church) should have a successful marriage and a well-behaved family, should be sober, self-controlled and orderly, and should have the respect of people outside the church.<sup>2</sup> Throughout the Christian world physicians, lawyers and government leaders — as well as ministers, elders and deacons — have been expected to live up to this description.<sup>3</sup>

Recent changes in the mores of our society have given rise to an increasing divorce rate. Physicians have proved to be as vulnerable to marital dissolution as have other professionals — and more vulnerable than some. But this is not the way it could be. As leaders and standard-setters in our society, physicians need to resist this decline in moral values. They know that an important measure of a person's personal success is the suc-

cess of his marriage and the happiness and well-being of his family. The physician, more than most other professionals, should be acutely aware of the problems growing out of divorce, since he often has to deal with the physical problems created by the emotional trauma resulting from the break-up of a marriage and a family.

Since divorce has reached epidemic proportions, it would seem that our profession, which prides itself on its problem-solving ability, would desire to determine the etiology of the problem and find some means of prevention. Even if this problem has not affected our own marriages or our children's lives, we can see its damaging effects in our practices and on the very fabric of our society. Centuries ago, Plato laid down the dictum that no society can survive if its children are raised in unstable homes.<sup>4</sup> The truth of this saying is being demonstrated today. Children raised in broken homes have an increased risk for psychiatric disease, alcoholism, drug addiction, delinquency and unstable marriages in their adult years.<sup>5,6</sup>

If it is true that physicians should come to grips with this problem, we should begin by looking at ourselves and our spouses and marriages, our family lives, and the special problems physicians encounter in their marriages. Along the way, we will

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try to determine what is needed to establish a good marriage and to raise children successfully. With a bit of work, we may be able to enrich our own marriages and increase our ability to recognize and correct marriage-threatening problems wherever we encounter them.

In this presentation we will begin with self-inspection.

## THE PHYSICIAN

### *Attributes*

The physician is a person who has made it through one of the most highly selective processes in our society. Most often, he has come from a stable home where he was loved and accepted. He has been stimulated and encouraged in his search for knowledge. He has achieved at a high academic level. Only one percent of the population will be as well educated as he is.<sup>7</sup> The number of years physicians spend obtaining their education will never be less than 19 and will usually be at least 21; if they become specialists their education may take 23 years, and, if they decide to be super-specialists, as long as 25 to 27 years. By the time they graduate from medical school, their part of education and support will have cost someone nearly \$40,000.<sup>8</sup> No other degree is so expensive in terms of time and money as the M.D.

The student who gains admission to medical school is selected from a highly competitive group of candidates who have demonstrated by their superior academic performance, leadership ability, and self-discipline that they possess an unusually broad spectrum of personality attributes that should allow them to cope successfully with a stressful life. He will need these attributes — especially the self-discipline. The medical student spends more hours in class and invests more time in practical laboratory work than other doctoral candidates — and he will spend as much time at his books as they do.

Before he opens his own office, a physician will take at least two and sometimes as many as five comprehensive examinations to demonstrate the adequacy of his

knowledge, and then he will anticipate continuing his education by attending scientific meetings and instructional courses aimed at keeping him abreast of developments in his field. When he completes his education, he will be expected to use his talents for the physical, psychological, social and economic betterment of mankind.

It is no wonder that the physician sometimes sees himself as adequate. His awareness of his abilities is quite understandable, for his fitness has been proved by his surviving to complete their training.

Whether he consciously evaluates himself or not, the physician's approach is based on the knowledge that he is a self-sufficient person. He can do most of the things that a person must do to cope with life, and he can do them well. Because he learns quickly, he undertakes new ventures without hesitation. Because he is efficient, his productivity is high. Because he is aggressive, he likes problems to solve. Most of all, the physician is competitive. It is his skill pitted against disease; it is his knowledge pitted against ignorance and superstition that makes a difference in the lives of his patients. Because he is competitive, he strives to be better than his colleagues. He has competed with them throughout his training and he does not stop competing after he gets into practice.

Once he enters practice, the physician's evaluation of himself will be strongly influenced by the respect — even adulation — of the patients he treats. In their eyes, their physician is a very special person, and they love him even when his defects are apparent. After all, he is *their* doctor.

### *The Professional Life*

What about the physician's professional life? How does it compare with that of other professionals: lawyers, writers, actors, artists? Only the minister has a professional life that makes demands comparable to those made on the physician. The physician has been trained to respond to the patient's call for help no matter what time of day or night it comes. Sickness knows no work-

ing hours, holidays or vacations. In no other profession is there such constant pressure to respond.

Also unique is the closeness of the physician's relationship with his patients. Anyone who puts his life in the hands of another person needs to have a high level of trust in that person. The patient comes to the physician hoping — and usually believing — that he is absolutely trustworthy. Believing this, they are willing to tell the physician things they may not have revealed to anyone else — and they will expect to do what the physician tells them to do. The patient's trust and his expectation that the physician will tenaciously pursue the problem to a successful conclusion motivates the physician to respond with heroic effort. This mutual commitment generates a closeness that does not occur in other professional relationships.

The physician is also close to those with whom he works. His subordinates, whether they are house officers, nurses, patient-care assistants, office aides, or clerical help, are physically and emotionally close to him. He recognizes that each one is an essential part of the healing team. Therefore, he is open and honest with them, and they communicate at a high level. Usually they have a mutual respect that allows the physician's subordinates to share in the decision-making, but also causes them to accept the physician's final decision without question.

Furthermore, the physician is close to at least some of his colleagues. Although he tends not to be open in personal matters, (because he does not want to appear weak) he is close to them socially and professionally.

### *The Physician as a Community Leader*

Outside the profession, the physician is expected to be a leader and to give generously of his time and talents in his community, civic club, church, or synagogue. In these leadership roles, he is expected to be a person of integrity, with high moral standards and exemplary deportment. In all aspects of his life,

he is expected to display good judgment. He is expected to be self-sacrificing, and no one expects him to refuse to do anything.

The physician, then, is seen by society as a heroic, God-like person — a superintelligent, self-sacrificing, moral, trustworthy, perfect, reliable, individual who has leadership abilities that are sacrificially presented to society for its use.

### *The Physician at Home\**

At home, the physician is seen in a different light. Here he is a man who wakes in the morning with stubble on his face. He may have halitosis and body odor; he is grumpy, and his brilliance is not apparent. He leaves the same rings in the tub and the same clothes on the floor that other husbands leave. He obviously doesn't have super-intelligence, because he can't or won't answer his wife's questions about what he wants for dinner. He is not efficient: he forgets to pay bills, he can't keep his bankbook straight, and he won't even go shopping for his own clothes. He can't keep up with his tools, and he doesn't fix the light switch when it needs repairing. Besides, he's never home. How can his family depend on him for anything? Thus his prestige at home is much less than away from it.

The telephone is ringing; another patient is calling. His patients need him but his wife and children need him too. How about them? Does he meet their needs, or does he just expect them to understand that he is married to his profession? He has a real wife, to be sure, but he also has a professional wife who is far more demanding than the one with whom he sleeps. This possibly number-one wife makes enormous demands. She gives little respite from his labors. She demands time and more time, effort and more effort. She is a merciless slave-driver who always demands that the physician keep on keeping on.

But then there is the flesh-and-

blood wife who has needs. She needs love, oneness and affirmation. She needs sex; she needs to communicate; she needs support in making decisions. She needs diversion and recreation. She needs time just to love her husband. She needs a hiding place. She needs protection from the buffetings of life. She needs *him*.

Most physicians have children as well. They will understand that he is a physician and respect him for what he does. They know that others need him, but they need him too. They need his love and support. They need him to teach them how to live, since he is supposed to know how to live. Since they usually have received his heredity, it is likely that they will have many of the same intellectual abilities and the same drives that he possesses. They will need to be guided into constructive pursuits that will bring them the satisfactions they must have if they are to be happy people. Most of all, they need a father.

Boys need a role model, someone they can strive to be like. A father must prepare them for their future roles as husbands and fathers. He must help them to learn how to carry out their responsibilities as a provider, leader and protector of the family.

Girls, on the other hand, need a father to teach them how to relate to other men. A good father must be a protector, who, by his attitude toward his wife and his children, teaches his daughters how to live in the mutually submissive relationship that is marriage. He must, by example, teach them about oneness.

A father must teach both his sons and daughters about sex and about morality. He must teach values and must demonstrate the usefulness of these values in his own life.

Need him? Yes, his wife and children need him. But how can he meet their needs when the phone rings all the time and when three other patients come into the office at the end of the day hoping he will see them? How can he meet his family's needs when a friend has asked him to participate in a fund-raising drive? How can he meet his family's

needs when he is so tired that all he can do when he finally comes home is to shower and go to bed? How can he meet their needs when the medical society demands that he spend 50 hours a year in continuing education? How can he meet their needs if he is never home?

The answer to all these questions is that he can't — unless he makes up his mind that he will. The physician must be willing to work at meeting his family's needs and at providing them with a quality of relationship that will make up for the lack of quantity.

### THE PHYSICIAN'S WIFE

Because of the peculiar demands of his profession, a doctor — even more than most men — needs to use both head and heart in the selection of a mate. The physician's wife, like the physician, must have special attributes.<sup>9</sup> She must be a mature person who is aware of the uniqueness of her husband's role in society. She must be willing to subordinate her needs to the needs of his patients. She must be satisfied with a small fraction of his waking hours and must expect to have their personal, social, recreational, and family life disrupted by emergencies.

The physician's wife needs to have financial expertise. She must be prepared to handle the finances of her household, and when she first marries she may even have to support her husband while he finishes his education. She will have to postpone many of her heart's desires until the day when her husband becomes the breadwinner. Among those desires may be her need for love and for sex, since the demands of his training and his constant fatigue will limit their time together to a few hours each week. It almost seems folly for a woman to enter into such a relationship.

The financial picture doesn't improve a great deal when the physician finally finishes his training and enters practice. He and his wife must borrow money for him to open an office, and they must borrow some money to buy a house and furniture and cars. For several years all that he makes goes to pay off the debts. Since physicians marry late,

\*Although we are aware of the increasing numbers of women who are becoming physicians, it is difficult to discuss their problems in marriage since not enough time has lapsed in a society whose attitude has changed toward women in medicine for us to intelligently discuss their problems. We have, therefore, chosen to discuss the problems of male physicians only.

children usually start arriving before the parents are out of debt. With children come the expenses of braces, dancing lessons, camp, piano lessons, swimming lessons, private schools, Scout trips. Most physicians are still sending children to college long after their contemporaries have been freed of this responsibility.<sup>3</sup>

Financial problems, however, are just the beginning for the doctor's wife. She, like her husband, is expected to become involved in community, church and school activities. If she has children, her responsibility for them is far greater than that of the average mother. Because Dad is not available, Mother will need to take care of the children's minor medical problems. Even though there is theoretically a "doctor in the house," she may have to attend to everyone's medical problems, including her husband's. She must also be the disciplinarian. It is likely that she will have to make and enforce the rules for appropriate behavior, set curfews, prescribe dress, and punish transgression.

Furthermore, she will be responsible for the children's education. She must see to it that they develop good study habits, that they receive encouragement, that their handicaps are diagnosed and remedied when possible. She must teach them how to manage money, how to relate to others, especially those of the opposite sex, how to exercise responsibility, how to discipline themselves, and how to manage freedom. She must be sensitive to their moods and be a good listener when the children need someone with whom to talk. Usually it is she who sees to the children's religious upbringing.

While doing all these tasks, the physician's wife has to look after the house — not just the everyday maintenance but, in many cases, remodeling and major repair jobs. It often falls her lot to see to the outdoor maintenance and landscaping.

In addition, responsibility for the physician's social life falls almost entirely on the shoulders of his wife. It is she who must plan and give the parties that are so important to his

career. She also has to know which invitations to accept and which to decline — and for this purpose she needs good communication with her husband's secretary. (Many a doctor's wife has found that collaborating with his secretary is the only way to protect him from the countless demands made on him.)

No matter how hurried or harried she is, the wife has to take care of her personal appearance. Society expects her to be attractive and well dressed.

In short, the ideal physician's wife is a beautiful, charming, intelligent, self-sacrificing, moral, trustworthy, perfectionistic, and reliable superwoman. All these qualities, along with her talents and leadership abilities, she offers on the altar of her husband's career and her family's happiness.

### THE PHYSICIAN'S RESPONSIBILITIES TO HIS FAMILY

To meet the expectations of society and to survive the strains these expectations create in their personal lives and on their marriage, the physician and his wife need to be unusually endowed people who enter marriage with a commitment to make it work.<sup>10</sup> If their relationship begins as one that is truly loving, and if they have committed themselves to each other, they will be united spiritually as well as physically. Each will try to live for the other, putting the other's best interests and welfare above his or her own.

When two people do this, they are able to work out differences and to forgive each other, so that conflicts are resolved. To work out differences, a couple must have time together, time for communion, for communication, for sex, and for comfort. Every day must have a few moments of private sharing. Occasional weekends alone with each other have to be a certainty.

Just as it is important for a husband to spend time with his wife, it is important for a father — even a physician father — to spend time with his children. He must be involved in their nurture. When they are young, he should sometimes

take the responsibility of caring for the children so that his wife can have a free evening. A father should occasionally roughhouse with his children, read them bedtime stories, hear their prayers and perhaps pray with them. He should take them on recreational expeditions and teach them some of his own skills — perhaps how to boat, fish, water ski, handle a gun, play tennis or golf, and go hiking or camping. Family vacations are a necessity. All of these activities should be carried out in an atmosphere of love and kindness.

How can the physician fulfill these responsibilities to his wife and children? Only by deliberately setting aside time for them, and then making this time sacrosanct. The world will not come to an end if he does not see one more patient, if he doesn't attend to one other board meeting, if he doesn't serve in one more fund-raising drive, or play one more round of golf or one more game of tennis. He must learn to say "no," or get someone else (his secretary and/or his wife) to say it for him. Most physicians, because they are trained that way, will say "yes" to every demand, even though their families suffer.

It takes time and work to make a good marriage and to raise children who are prepared to cope with today's world. The physician who has taken on the responsibilities of marriage and fatherhood owes it to his wife and children — and to society — to find time and strength for his family, even at the cost of failing to live up to the self-image he has created.

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# Toxic Encounters of the Dangerous Kind

## The Narcotic Triad

Many patients present to emergency rooms because of purposeful or accidental overdose with narcotics or narcotic-like substances. The classic clinical picture of such an overdose is often referred to as the "narcotic triad" (1) miosis (pupils  $\leq 2$  mm), (2) respiratory depression, (3) coma.

Some of the drugs that will produce this triad include: morphine, heroin, pentazocine (Talwin), methadone, codeine, oxycodone (Percodan), propoxyphene (Darvon), meperidine (Demerol), paregoric, dextromethorphan, diphenoxylate (Lomotil), loperamide (Imodium), and butorphanol (Stadol).

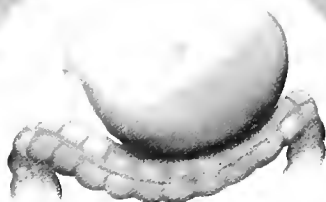
Fortunately a narcotic antagonist, naloxone hydrochloride (Narcan), is available to reverse the toxic clinical features. This drug, unlike the earlier narcotic antagonists, levallorphan tartrate (Lorfan) or nalorphine hydrochloride (Nalline), does not produce severe agitation and respiratory depression. Each ampoule of naloxone contains 0.4 mg/ml; the dose for adults is 2 mg IV and can be repeated in 5 minutes if necessary. A comatose child should be given 0.01 mg/kg initially; if no

clinical improvement is seen within 2-3 minutes, 0.1 mg/kg is administered. When propoxyphene has been ingested, the larger dose is often necessary. Naloxone is quite safe even in multiples of the manufacturer's recommended dose. Thus repeated doses of naloxone may be necessary until the narcotic is metabolized and excreted. The half-life of naloxone is 60 minutes whereas the half-life of the offending narcotic is usually much longer. The important thing to remember is not to be complacent if your patient dramatically awakens after the first dose of naloxone — the patient will probably "crash" again.

Consider narcotic ingestion in an adult or child in coma (especially with miosis) and administer a trial dose of naloxone. This is a safe, efficient procedure which can lead to a rapid diagnosis and a successful outcome.

Ronald B. Mack, M.D.  
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**Usage in Pregnancy:** Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.

As with all anticholinergics, inhibition of lactation may occur.

**Precautions:** In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug.

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## Editorials

### THE PHYSICIAN AT RISK — AT HOME AND ABROAD

When novelists and political columnists write novels and columns about themselves, they may be accused of being out of touch with the world about them and a withering of their creative talents may be suspected. When physicians scrutinize each other, we cannot be open to similar accusations. But when we study our own behavior, can we be compared to such celebrities? Most assuredly not because we are not being paid by the word and for the thought and we are neither elegant stylists nor given to such lucubrations. We occupy a somewhat different place in society — as healer, priest, magician, prophet and even as businessman and have spawned a different set of symbols for our profession, some perhaps better discarded and others worth more emphasis.

In other eras we have worn elaborate emblematic robes and continue to wear plain ones<sup>1</sup> and through the centuries have developed our own instruments though auto mechanics have joined us of late as stethoscopists. We have also acquired an arcane script said to waste the time of nurses and pharmacists because of its illegibility,<sup>2</sup> have appropriated (as neurologists) the respected and decorative hat pin as a tool of our trade<sup>3</sup> and, in a more septic era, carried catheters in our hats. But more importantly we have listened and laid on hands, learning to speak with the body when the tongue fails. Even the prescription serves as a communication: the symbolic writing and the laying of the hand to the pen so that the magic therapeutic potion may be dispensed.

Because of this role, ancient and generally honorable, we physicians have been able to establish professional organizations and to achieve a certain autonomy, nowadays threatened in an increasingly technological environment as we become medical managers and serve as coaches of healing teams.<sup>4</sup> What are our ward rounds but mobile committee meetings with nurses, social workers, house officers, dieticians and clinical pharmacists with doctors as chairmen? In this milieu despite our increasing understanding of biologic phenomena and more effective therapies, we see bumper stickers offering such imperatives as "Send your child to medical school! Support a lawyer!" and are confounded by the Federal Register, the Federal Trade Commission and a variety of other governmental bodies.

How did we establish ourselves in such a City on the Hill to have it be so challenged and at the same time so

sought after? Osmond<sup>5</sup> suggests that our autonomy is derived from three attributes: knowledge, hard-earned through long apprenticeship and not easily available to others; moral authority because we are always or are expected to be primarily concerned with the good of our patients and not ourselves, and Aesculapian authority, God-given, even charismatic. With such attributes, how can the physician be protected from group deification or self-love? By peer regulation as in ancient guilds, the AMA and our specialty societies, examinations and licensing bodies. But when things medical consume about 10% of the gross national product, the public paying the bill through taxes, third parties or directly may want to assess the quality of that control and question whether a new system of assurance is needed.

Little wonder then that physicians, stationed as we

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are at the crossroads of the marketplace, share with ministers' wives, in small southern towns, a sort of goldfish bowl syndrome and that all conceivable aspects of our existence are being subjected to scrutiny. We have been urged to use our offices more effectively, to see more patients in less time in the interest of efficiency and in obeisance to the cost-benefit ratio. We are being impelled to continue our medical education, although the good physician never stops learning and the bad one may have never started. Our clinical competence, and performance, and our decision making powers and data processing are being constantly assessed.<sup>6-9</sup> Our emotional satisfactions and failures are drawing increasing attention<sup>10</sup> and the lives of medical college deans' wives have been chronicled.<sup>11</sup> Even the holy sanctum of the psychoanalyst, his listening chamber, has been invaded by the scholar with tape recorder and the phrases and vocal characteristics of psychiatrists and encouched patients analyzed by outsiders. Pratt and McMath<sup>12</sup> have accused us with good reason of hypocompetence as interviewers. Yet what medical school, what specialty board, what state licensing body has forsworn its allegiance to multiple-choice examinations? How does one grade listening or the laying on of hands?

We have learned that medicine in this post-industrial society does not obey the economic law of supply and demand. Instead the law of diminishing returns rules as litigation forces some of us into defensive diagnostic studies while third parties remain enchanted by obligatory admission laboratory studies which yield the less the more measured. Despite the

well-intentioned, costly efforts of our federal system, we as a people are no happier and no more secure emotionally than our ancestors.

Medicine is an occupation fraught with risk not only emotional and economic but also physical. Even the symbolic hat pin can be a vector for hepatitis<sup>3</sup> while the anesthesiologist may be endangering his issue by exposure to nitrous oxide<sup>13,14</sup> and himself to halothane<sup>13</sup> and our vulnerability to tuberculosis is a fact of long-standing.<sup>15</sup> Overwork is a real threat; in Rhoads' study<sup>16</sup> six of 10 victims were physicians while alcoholism among doctors has even drawn Donahue's television attention on a November Monday morning. Temptation and opportunity make us peculiarly susceptible to drug addiction and suicide as Crawshaw<sup>17</sup> tells us has a tragic appeal.

If prevention is kinder and cheaper than therapy, what more can we do? Thomas<sup>18</sup> in her continuing studies of Johns Hopkins medical graduates has described differences perhaps recognizable in medical school which have prognostic significance. The more tense and anxious the students and the greater their cigarette and alcohol consumption, the greater likelihood of premature disease or death from heart attack, cancer, suicide or stroke. But it is difficult to plumb the inner realities of the applicant to medical school and illegal to ask the would-be physician questions about health.\* If our profession is to maintain something of the autonomy necessary for its proper practicing, we need to develop means for measuring our own ability and capacity to develop defenses and to recognize how and when to employ them for the good of ourselves, our families, and yes, our patients. Vailant<sup>19-21</sup> points to four traits — humor, altruism, aptitude for sublimation and capacity for suppression as essential if a physician is to adapt effectively. It is almost as if mature defenses are the virtues so treasured in medieval times and the defenses of the disordered personality akin to the seven deadly sins: pride, envy, anger, sloth, avarice, gluttony and lust.

So when Wilson and Larson (p 106) and Taylor (p 123) address us, we must listen. We can all be victims of status anxiety and we can hardly avoid fearing failure. We may be faced with conflicts when our senses of obligation for patients and our allegiances to our family are highly developed. We should pursue virtue and be thankful for our good fortune. The greatest imperative is to realize that we can only maintain our autonomy as a profession and stability at home if we never cease that pursuit.

J.H.F.

\*If characteristics which have poor prognostic implications are considered handicaps, and it is difficult to think otherwise, preadmissions inquiry about such attributes cannot be made according to Section 504 of the Rehabilitation Act of 1973. If information about such handicaps is offered voluntarily or inadvertently, it cannot affect any decision about admission adversely. Medical information can be sought after an applicant is enrolled if it is not used for excluding or disqualifying matriculants. Thus while measures, legal and social, may be employed to maintain standards of practice of medical graduates, similar measures do not appear to be available to our medical colleges. So cure after stress rather than preventive before practice seems to be the ordained approach to helping impaired physicians.

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## COST CONTROL: ON KEEPING ONE'S HAND IN

Many years ago when physical diagnosis was still considered an exceptionally valuable tool, Dr. James J. Waring<sup>1</sup> discussed before the American College of Physicians in 1947 some particularly important aspects of that technique and illustrated them appropriately. One adage cited by Dr. Waring should attract our attention in this era of compulsory completeness and comprehensive chemical analysis — "He who doesn't put his finger in will put his foot in." This

lesson seems to have been well-learned as far as cervical carcinoma goes but cancer of the prostate behaves differently. Because abnormalities in acid phosphatase production are characteristic of prostatic malignancy, determination of the serum content of this enzyme has been considered helpful in assessing patients with stony-hard glands. Recently the predictive and diagnostic value of radio-immunoassay of prostatic acid phosphatase (PAP) has been seriously challenged by Watson and Tang who have demonstrated that PAP is of little positive predictive value in screening for prostatic cancer,<sup>2</sup> particularly when digital examination discloses no glandular nodules. It of course continues to be valuable in staging the pathologic process and in confirming diagnosis.

Guinan and his associates<sup>3</sup> have remarked that before 1920 the examining finger was the only diagnostic tool of value in seeking out such lesions and have noted the proliferation of costly and complex procedures to confirm our sense of touch. After evaluating 300 patients with prostatic cancer, they concluded that rectal examination is still the most effective procedure in screening and that it is certainly cheaper and quicker, something our medical ancestors had already appreciated.

J.H.F.

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We recommend selecting an agency that has had experience in collecting for physicians, dentists, and hospitals. Checking agency references is a must. Then your next step is being sure that your staff cooperates with the agency in the four ways we've outlined.

1. **Use a good "patient history" form.** It will help your staff and your collection agency to do a better job on delinquent accounts. At the very least, you'll need the patient's (or responsible person's) name, full address, phone number, marital status, birthdate, employer, employer's address and phone, the name of the person or physician who referred the patient and full insurance information. If the patient is married you should ask for the same information on the spouse. And remember to have patients fill out a new form periodically — annually is recommended. Today, name, marital status, and jobs change with great frequency.
2. **Keep good records.** This means your

staff should record all written or telephone contacts with a patient as they try to collect. Share the record of your efforts with the collection agency. Never bill or contact the patient after turning the account over.

3. **Turn accounts over on a regular, monthly basis.** If a patient hasn't responded to repeated billing and contacts from your office after a period of time — take action. Medical accounts should be given to a professional collector after 120 or 180 days. Many physicians wait too long — as long as a year or two — making it almost impossible for even the agency to do its job. "Aging" your accounts will help you determine which ones to refer. Your accountant can show your staff how to do this.
4. **Don't ask for "progress reports."** Repeated calls by your staff for information about the status of delinquent accounts isn't a good idea. Agency personnel are busy "reporting" when they should be "collecting."

Do remember that an effective in-office collection system is a must. Give your staff your guidance and support in this area.

One word of caution. If your account followup indicates the patient's refusal to pay is based on dissatisfaction with the service, review the account carefully before turning it over to a collection agency. A malpractice suit can be triggered by collection enforcement of an account of a patient with a substantive grievance.

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Connell, John Alexander (STUDENT) 604-A Hibbard Dr., Chapel Hill 27514  
Imber, Michael J. (STUDENT) Box 2760, Duke Medical Ctr., Durham 27710  
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Vandiver, Thomas Jackson, MD, (OBG) 1761 Maryland Ave., Charlotte 28211

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Shriver, Ronald Gene, MD, (DR) 2118 S. Live Oak Parkway, Wilmington 28401

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Ravelli, Ms. Marcia Suzanne (STUDENT) Elm Villa Apt — O, Greenville 27834

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Stackhouse, Wm. James, MD, (IM) 1214 S. Andrews Ave., Goldsboro 27530

## WHAT? WHEN? WHERE? In Continuing Education

Please note: 1. The Continuing Medical Education Programs at Bowman Gray, Duke, East Carolina and UNC Schools of Medicine, Dorothea Dix, and Burroughs Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or cosponsored by these schools automatically qualify for AMA Category I credit toward the AMA's Physician Recognition Award, and for North Carolina Medical Society Category A credit. Where AAFP credit has been requested or obtained, this also is indicated.

2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information."

#### February 5-6

"1981 Conference for Medical Leadership"

Place: Velvet Cloak Inn, Raleigh

Fee: \$45

Credit: 6 hours

For Information: Kathy D. Jones, Executive Assistant, Communications, North Carolina Medical Society, Raleigh, (919) 833-3836.

#### February 11

"Stress As A Factor in Illness"

Place: Pitt County Memorial Hospital, Greenville

Fee: \$15

Credit: 3 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville, 27834

#### Feb. 18

"Surgical Care—A Team Approach"

Place: Holiday Inn, Sanford

## CYCLAPEN-W® (cyclacillin)

### Indications

Cyclacillin has less *in vitro* activity than other drugs in the ampicillin class and its use should be confined to these indications. Treatment of the following infections:

#### RESPIRATORY TRACT

Tonsillitis and pharyngitis caused by Group A beta-hemolytic streptococci

Branchitis and pneumonia caused by *S. pneumoniae* (formerly *D. pneumoniae*)

Otitis media caused by *S. pneumoniae* (formerly *D. pneumoniae*) and *H. influenzae*

Acute exacerbation of chronic bronchitis caused by *H. influenzae*\*

\*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*.

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, non-penicillinase producers.

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing.

Contraindications: Contraindicated in individuals with history of an allergic reaction to penicillins.

Warnings: Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions: Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY: Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS: It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.

Adverse Reactions: Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reported.

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

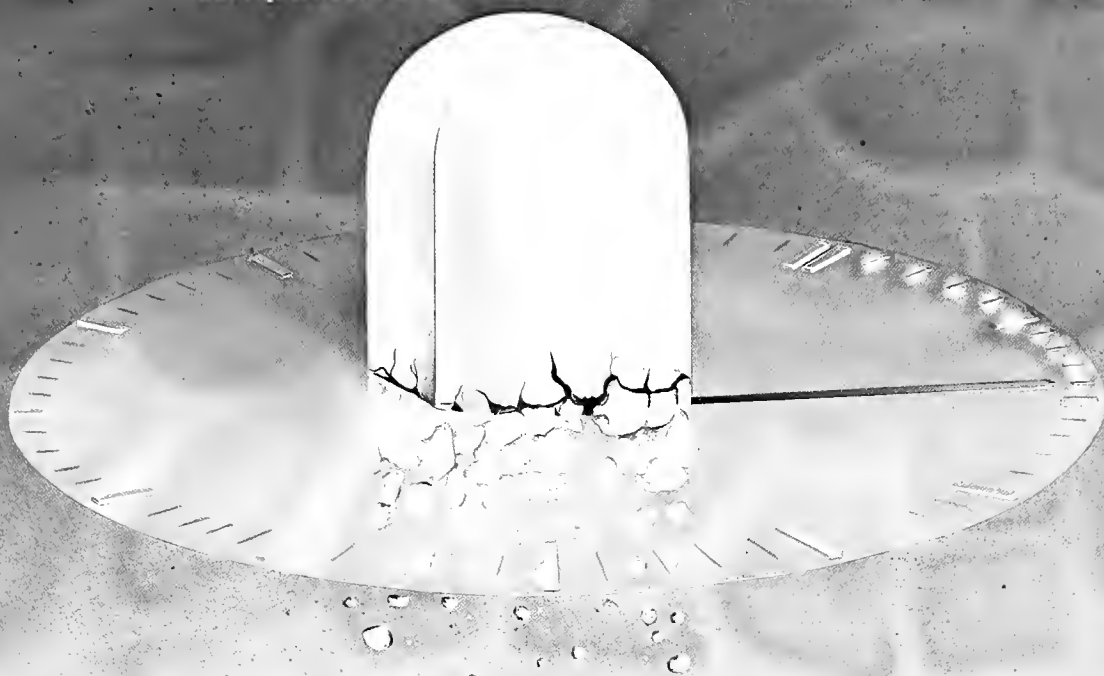
Cyclacillin is not indicated in children under 2 months of age. Patients with Renal Failure: Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

Dosage: (Give in equally spaced doses)

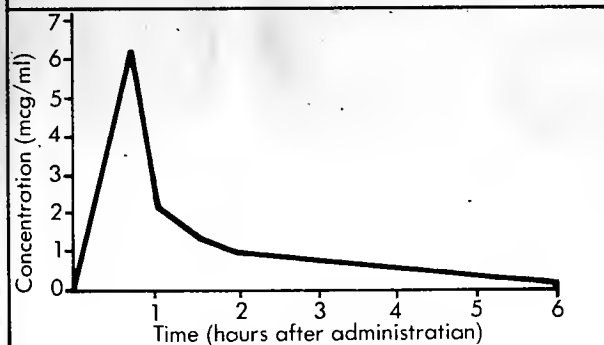
INFECTION	ADULTS	CHILDREN*
Respiratory Tract		
Tonsillitis & Pharyngitis	250 mg q.i.d.	body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d.
Branchitis and Pneumonia		
Mild or Moderate Infections	250 mg q.i.d.	50 mg/kg/day q.i.d.
Chronic Infections	500 mg q.i.d.	100 mg/kg/day q.i.d.
Otitis Media	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day† q.i.d.†
Skin & Skin Structures	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day† q.i.d.†
Urinary Tract	500 mg q.i.d.	100 mg/kg/day

\*Dosage should not result in a dose higher than that for adults. †depending on severity

**Half the dose  
is absorbed in 9 minutes!**  
compared to 32 minutes for ampicillin.\*



Mean blood levels in mcg/ml after 250 mg cyclacillin single oral dose



- Rapid, virtually complete absorption from GI tract
- Exceptionally high peak blood levels – 3 times greater than ampicillin (Clinical efficacy may not always correlate with blood levels.)
- Rapidly excreted unchanged in urine – 1½ times faster than ampicillin

\*Based on  $T^{1/2}$  values for single oral doses of 500 mg cyclacillin tablet and 500 mg ampicillin capsule. Data on file, Wyeth Laboratories.

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Wyeth Laboratories • Philadelphia, Pa. 19101



**Fewer episodes of diarrhea and rash than with ampicillin in studies to date.**

**Efficacy proven in the treatment of bronchitis, pneumonia, and upper respiratory infections.†**

In 117 patients, 73 with bronchitis/pneumonia caused by *S. pneumoniae* and 44 with streptococcal sore throat caused by Group A beta-hemolytic streptococcus, CYCLAPEN®-W achieved a clinical response rate of 100%! Bacterial eradication was 95% and 86% respectively.

†Due to susceptible organisms.

See important information on facing page.

**CYCLAPEN®-W**  
(cyclacillin) 250 and 500 mg Tablets  
125 and 250 mg per 5 ml Suspension

**more than just spectrum**

**NEW  
NAME**

Fee: \$12  
Credit: 3.5 hours  
For Information: (919) 775-2111 ext. 219

#### March 11

"Current Clinical Problems in Family Practice"  
Place: Pitt County Memorial Hospital, Greenville  
Fee: \$15  
Credit: 3 hours  
For Information: F. M. Simmons Patterson, M.D., Assistant Dean  
for Continuing Medical Education, East Carolina University  
School of Medicine, Greenville 27834

#### March 11-14

Internal Medicine 1981  
Place: Berryhill Hall, UNC School of Medicine  
Fee: \$175  
Credit: 25 hours  
For Information: William B. Wood, M.D., Director of Continuing  
Education, UNC School of Medicine, Chapel Hill 27514 (919)  
933-2118

#### March 16-20

5th Annual Family Medicine Review Course  
Place: Bowman Gray School of Medicine  
Fee: \$275  
Credit: 40 hours  
For Information: Emery C. Miller, M.D., Assoc. Dean for Con-  
tinuing Education, Bowman Gray School of Medicine,  
Winston-Salem 27103

#### March 18

"The Best of Orthopedics"  
Place: Lee County Hospital, Sanford  
Fee: \$12  
Credit: 3.5 hours  
For Information: (919) 775-2111 ext. 219

#### March 25-27

"Alcoholism: Biomedical Research"  
Place: Carolina Inn, Chapel Hill  
Fee: \$30  
For Information: The Center for Alcoholism Studies, UNC School  
of Medicine, Chapel Hill 27514

#### March 26-27

Physician Extenders  
Place: Bowman Gray School of Medicine, Winston-Salem 27103  
Credit: 10 hours  
For Information: Emery C. Miller, M.D., Assoc. Dean for Con-  
tinuing Education, Bowman Gray School of Medicine

#### March 27-28

1981 TB Workshop  
Place: UNC School of Medicine  
Fee: None  
Credit: 9 hours  
For Information: William B. Wood, M.D., Director of Continuing  
Education, UNC School of Medicine, Chapel Hill 27514

#### March 27-28

Frank R. Lock Symposium in Obstetrics and Gynecology  
Place: Bowman Gray School of Medicine  
Fee: \$150  
Credit: 9 hours  
For Information: Emery C. Miller, M.D., Assoc. Dean for Con-  
tinuing Education, Bowman Gray School of Medicine,  
Winston-Salem 27103

#### April 2-3

5th Annual Cancer Research Symposium  
Place: UNC School of Medicine  
Fee: None  
Credit: 11 hours  
For Information: William B. Wood, M.D., Director of Continuing  
Education, UNC School of Medicine, Chapel Hill 27514

**An apple a day won't  
keep alcoholism away!**

The alcoholic presents unique, baffling problems in medical practice. So does the person addicted or dependent on narcotics, tranquilizers, sedatives or stimulants. We specialize in acute care and long-term treatment of these conditions, offering a minimum 28-day program.

Do you have a patient who needs this kind of help? You probably do because the illness is sneaky. For more information and guidelines on how to identify these patients, write to us.

**Willingway Hospital**

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J.C.A.H. ACCREDITED

#### April 2-4

Glaucoma & Perimetry for Ophthalmologists

Place: Pinehurst

Fee: \$275

Credit: 18 hours

For Information: William B. Wood, M.D., Director of Continuing Education, UNC School of Medicine, Chapel Hill 27514

#### April 3-4

"Practical Pediatrics"

Place: Bowman Gray School of Medicine

Fee: \$50

Credit: 9 hours

For Information: Emery C. Miller, M.D., Assoc. Dean, Bowman Gray School of Medicine, Winston-Salem 27103

#### April 4-5

"5th Annual Radiology Update"

Place: Bowman Gray School of Medicine

Fee: \$50/75

Credit: 9 hours

For Information: Emery C. Miller, M.D., Assoc. Dean, Bowman Gray School of Medicine, Winston-Salem 27103

#### April 8

"Current Concepts in Cardiology"

Place: Pitt County Memorial Hospital, Greenville

Fee: \$15

Credit: 3 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville 27834

#### April 11-12

Geriatric Anesthesia

Place: UNC School of Medicine

Fee: \$100

Credit: 9½ hours

For Information: William B. Wood, M.D., Director of Continuing Education, UNC School of Medicine, Chapel Hill 27514

#### April 16

Movement Disorders Update

Place: UNC School of Medicine

Fee: \$20

Credit: 5 hours

For Information: William B. Wood, M.D., Director of Continuing Education, UNC School of Medicine, Chapel Hill 27514

#### April 16 and 17

"Third Annual Health Law Forum"

Place: Pitt County Memorial Hospital, Greenville

Fee: \$100

Credit: 8½ hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville 27834

#### April 22

Update on the Care of the Diabetic Patient

Place: Howard Johnson Motel, Greensboro

Fee: \$35

Credit: 5 hours

For Information: William B. Wood, M.D., Director of Continuing Education, UNC School of Medicine, Chapel Hill 27514

#### April 24-25

Symposium on Metabolic Bone Disease

Place: Velvet Cloak, Raleigh

Fee: \$20

Credit: 9 hours

For Information: William B. Wood, M.D., Director of Continuing Education, UNC School of Medicine, Chapel Hill 27514

#### April 29-30

Current Concepts in Hemostasis and Thrombosis

Place: UNC School of Medicine

Fee: \$100

Credit: 14 hours

For Information: William B. Wood, M.D., Director of Continuing Education, UNC School of Medicine, Chapel Hill 27514

The items listed in the above column are for the six months immediately following the month of publication. Requests for listing

should be received by "WHAT? WHEN? WHERE?", P.O. Box 27167, Raleigh 27611, by the 10th of the month prior to the month in which they are to appear. A "Request for Listing" form is available on request.

## AUXILIARY TO THE NORTH CAROLINA MEDICAL SOCIETY

### Support for the Medical Family

"The problem of the impaired physician is a medical family concern and one which we can all help to solve if we work together in full cooperation." Mrs. Harry S. Dvorsky, AMA Auxiliary president-elect, issued this challenge at the AMA's Fourth National Conference on the Impaired Physician. Mrs. Dvorsky emphasized the need for each medical family to pay attention to each member's physical and emotional health status and specifically advocated support programs for spouses and families of impaired physicians to be started within the medical community.

I am particularly interested in the AMA Auxiliary focus on the welfare of medical families since my husband and I have written articles and conducted meetings on medical marriage for medical students, residents and practicing physicians. In addition I teach a course on Medical Ethics and Human Values at the Bowman Gray School of Medicine of Wake Forest University for first year medical students. At this early stage of their professional socialization these future physicians are expressing interest in the lifestyle of a physician and measures they can take to prevent impairment. With four medical schools in North Carolina we in the medical profession have an opportunity to reach many future physicians at a formative stage.

Medical families have unique features which can be expressed in the framework of a life cycle. Each stage can give rise to problems that will affect the functioning of individual members. Let us review these stages and the potential danger areas:

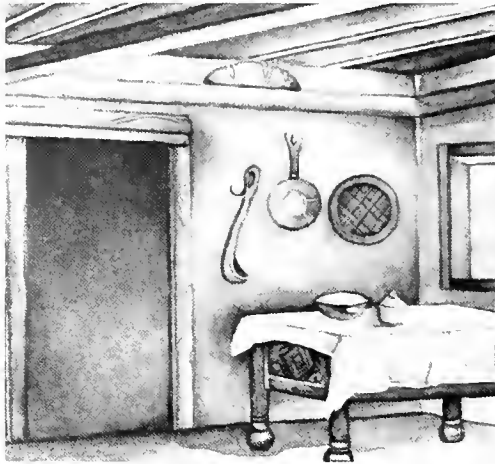
1. Medical Training Years: This is the time when the couple are negotiating status and roles in their relationship. The student/physician may attempt to place his work in a superior category, taking precedence over all else. Verbal symptoms are the phrases, "I have no time," "I have to study," or "I have to go back to the hospital." The spouse's reaction to these words will determine the future pattern of control in the relationship. Passive acceptance or outright hostility will be less helpful than open discussion.

The medical training years can be the best time to develop mutual interests outside medicine — boating, stamp collecting, dancing, music — that will give strength to future relationships.

2. Beginning a Practice: Spouses often are excluded from the physician's professional activities at this stage, either unintentionally because

# Yesterday's Folk Remedy:

## A rye loaf in the rafters.



Early in this century in Central Europe, almost every farm family kept a loaf of moldy rye bread on one of the kitchen beams. When any family member was cut or bruised, it was an old custom to cut a thin slice from the outside of the loaf, mix it into a paste with water, and apply it to the wound with a bandage. It was believed that no infection would then result from the cut.<sup>1</sup>





# Today's Tradition: **Tegopen**<sup>®</sup> (cloxacillin sodium)

for the treatment\* of  
known or suspected  
staphylococcal  
infections such as:

- Acute sinusitis
- Furunculosis and carbuncles
- Impetigo
- Secondarily infected dermatitis
- Cellulitis
- Abscesses
- Infected sebaceous cysts

In serious, deep-seated  
staph infections, 500 mg  
q.i.d. dosage is  
recommended.<sup>†</sup>

- Tegopen has been reported active against 96% of *Staphylococcus aureus*.<sup>2</sup>
- 80% of *S aureus* has been reported resistant to amoxicillin and ampicillin. ‡<sup>2</sup>
- 88% of *S aureus* has been reported resistant to penicillins G and V. ‡<sup>2</sup>
- Staph resistance to erythromycin may develop during a course of therapy.<sup>3</sup>



Available as 500-mg and 250-mg capsules  
and Oral Solution 125 mg/5 ml.

## Tegopen<sup>®</sup> (cloxacillin sodium) Today's Penicillin for Today's Physician

1. Florey HW, Chain E, Heatley NG, et al: *Antibiotics*. London, Oxford University Press, 1949, p 2

2. Bac-Data Bacteriologic Report, Professional Market Research, 1978-1979. The clinical significance of *in vitro* data is unknown.

3. Erythromycin prescribing information (in *Physicians' Desk Reference*, ed 34. Oradell, NJ, Medical Economics Co, 1980) states that staph resistance may develop during treatment.

See brief summary of prescribing information on  
an adjoining page.

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\*Note: The choice of Tegopen should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates that the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semisynthetic penicillin.

†In serious, life-threatening infections, oral preparations of the penicillinase-resistant penicillins should not be relied on for initial therapy.

‡Not all isolates may have been tested using both discs.

# Tegopen®

(cloxacillin sodium)  
Capsules and Oral Solution

## Brief Summary of Prescribing Information

For complete information consult Official Package Circular  
(12) 9/11/75

### INDICATIONS

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected. (See Important Note below.)

Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

### IMPORTANT NOTE

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital. For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing. Such strains of staphylococci have been capable of producing serious disease, in some instances resulting in fatality. Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

### CONTRAINDICATIONS

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.

### WARNING

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines and corticosteroids.

Safety for use in pregnancy has not been established.

### PRECAUTIONS

The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy, appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

### ADVERSE REACTIONS

Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

### USUAL DOSAGE

Adults: 250 mg q 6h

Children: 50 mg/Kg/day in equally divided doses q 6h. Children weighing more than 20 kg should be given the adult dose. Administer on empty stomach for maximum absorption.

**N.B.** INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR ACUTE GLOMERULONEPHRITIS.

### SUPPLIED

Capsules—250 mg in bottles of 100, 500 mg in bottles of 100  
Oral Solution—125 mg/5 ml in 100 ml and 200 ml bottles

**BRISTOL**®

Bristol Laboratories  
Division of Bristol-Myers Company  
Syracuse, New York 13201

of the bureaucratization of medical practice or by choice as children and/or the spouse's own career make demands. Couples may find themselves pulled in different directions and losing contact.

If the young medical family beginning a practice shares in decision-making, stresses will also be shared. This stage in the relationship offers an opportunity for both spouse and children to learn to communicate freely and constructively.

3. **Maximum Career Demands:** Time pressures build so that the physician may be unable to meet the needs of both family and patients. This stage will be especially stressful for the increasingly large number of female physicians who will find themselves torn between their desire for children with the accompanying responsibilities and the feelings of guilt that they are not meeting their professional expectations. Both male and female physicians may find themselves acceding to the calls of patients (with the sanction of colleagues and society) while the spouse and children become resentful. During this stage the physician and spouse may try to escape stress by turning to alcohol or drugs.

This stage, however, holds great potential for fulfillment. The earlier dreams of practicing medicine can be realized if only the physician can here set realistic priorities and determine what is truly important in life.

4. **Career Plateau:** The physician may become disillusioned with his life during this stage as he realizes that "this may be all there is" and concludes that it isn't enough. Positive steps to change the focus of a medical career may result in a traumatic uprooting of spouse and children. Despair with life the way it is may lead to anti-social behavior.

The communication skills developed earlier in the family relationships can be used effectively here as each member can be involved in continuing self-growth. Honest expression of feelings is especially important. If someone assumes the "martyr role," family dysfunction may result.

5. **Retirement:** Physicians all know that they will age along with their patients. How they plan for this stage will determine the quality of their later years. If family relationships and outside interests are nurtured, the retirement stage will not cause undue stress. However, if the physician "lives for his patients" and achieves self-actualization only through his practice of medicine, then the transition may be difficult with an increased risk of substance abuse, personality change, or suicide.

It is important for physicians and their families to recognize these five stages, as well as the opportunities and potential problems of each so that they may have realistic expectations of their medical family life.

Each stage has potential for growth and success, but it also holds the seeds of disaster.

Support networks within the profession are at present embryonic. Whenever we speak to a group of physicians and spouses my husband and I are asked, "After you leave, what do we do to continue what you have started?" It is difficult for physicians to discuss their personal lives with anyone, but somehow it is easier to do so with colleagues who are familiar with the same fears and hopes. Medical families should not have to solve their human problems alone — they give generously of themselves to others outside their profession. Why not to each other?

By acknowledging that medical families do have some unique challenges, we must now take the next step and find ways to support each other within our medical community. It starts with the first year of medical school — the network from future physicians and their families to the practicing physicians and their families. Each of us in North Carolina has an opportunity and obligation to reach out to another medical family. In this way we will not only be helping ourselves but also ensuring top quality care for patients: after all, how can an impaired physician or a physician with a disturbed family provide optimum care for his patients?

Anita D. Taylor

(Mrs. Taylor is a medical sociologist and a Certified Medical Assistant who teaches a course on medical ethics and human values at the Bowman Gray School of Medicine of Wake Forest University.)

city. She and her physician husband speak on the topic of medical marriage and have co-authored *Couples: The Art of Staying Together* (Acropolis Books, 1978). She has been a member of the American Medical Association Auxiliary since 1964 and is currently serving on the board of directors of the Forsyth County Medical Auxiliary.)

#### News Notes from the—

### EAST CAROLINA UNIVERSITY SCHOOL OF MEDICINE

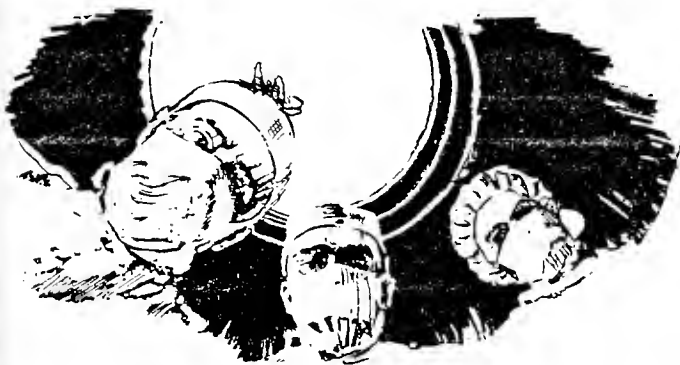
Family medicine is the choice of 46% of the students in the Class of 1981, according to residency applications made by the 28 future physicians. Thirteen members of ECU's charter class have made applications in family medicine, five in medicine, four in obstetrics and gynecology, and two each in pediatrics, psychiatry and surgery. ECU will graduate its first class of students this May.

\* \* \*

Dr. Billy E. Jones, a Greenville dermatologist for 13 years, has been appointed professor of medicine and chief of dermatology.

Jones had been associate clinical professor of medicine at ECU since 1977. In his new position he will be

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responsible for curriculum development and instruction in dermatology.

Jones received his undergraduate degree from The Citadel and his M.D. from Duke University Medical Center. He did an internship at William Beaumont Army Hospital, El Paso, Texas, and completed residency training in dermatology at Letterman General Hospital and the University of California, San Francisco.

During his military service he was chief of dermatology at Fort Gordon, Ga. He also held a faculty appointment at the Medical College of Georgia, Augusta.

\* \* \*

A neuroanatomy atlas illustrated by a biomedical photographer at the School of Medicine is scheduled for publication this spring by University Park Press, Baltimore, Md.

Carroll S. Punte, a member of the staff at the Audio-Visual Services Center, was responsible for the production of the 40 black-and-white photographs and corresponding color slides that illustrate the *Atlas of the Human Brain Stem and Spinal Cord*.

The 100-page photographic reference was written by Dr. James D. Fix, a former faculty member in the ECU anatomy department. Fix currently is chairman of anatomy at the Marshall University School of Medicine, Huntington, W. Va.

The atlas provides beginning neuroanatomy students with a three-dimensional concept of major motor and sensory systems. Punte made the photographs from original histological sections to supple-

ment traditional methods of instruction, review and testing in neuroanatomy.

\* \* \*

Dr. Leonard S. English, assistant professor of microbiology, has received a \$41,038 grant from the National Institutes of Health to support a second year of research on "Regulation of the Immune Response in Vivo."

\* \* \*

Dr. Hubert W. Burden, professor of anatomy, published "The Effect of Abdominal Vagotomy of the Pregnant Rat on Pituitary Content of Prolactin and Gonadotropins" in the November issue of *IRCS Medical Science*. Co-authors of the article are Dr. Irwin E. Lawrence, professor of anatomy, and Dr. Charles Hodson, assistant professor of obstetrics and gynecology.

Dr. Edwin W. Monroe, associate dean for external affairs, has been appointed to the President's National Advisory Council on Environmental Health Sciences.

\* \* \*

Dr. Alvin Volkman, professor of pathology and laboratory medicine, was a guest lecturer in December at Saint Jude's Children's Research Hospital, Memphis, Tenn. He presented "Macrophage Function in Monocyte Deprived Mice."

\* \* \*

Dr. Robert E. Thurber, chairman of physiology, presented "Health Promotion at the Local Level" at the N.C. Health Convocation held in Raleigh in December.

\* \* \*

The gastroenterology section of the Department of Medicine hosted a meeting of the N.C. Chapter of the American College of Physicians Dec. 6 in Greenville.

\* \* \*

Dr. Greg Iams, assistant professor of physiology, and Steve Blumenthal, research assistant, presented "Adenylate Cyclase in the Aging Hypothyroid Spontaneously Hypertensive Rat" at the first annual meeting of the Southeastern Pharmacological Society in Augusta, Ga., Nov. 20-22.

\* \* \*

Dr. Walter J. Pories, chairman of surgery, participated in a discussion of "The Delinquent Resident" at the Southern Surgeon's Association meeting in Palm Beach, Fla., Dec. 8-10.

\* \* \*

Dr. Donald R. Hoffman, associate professor of pathology, and Jeff Miller, second-year medical student, published "Hymenoptera Venom Allergy: A Geographic Study" in the November issue of the *Annals of Allergy*.



B.B. Plyler, Jr., C.L.U.



Brent Plyler, C.L.U.

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Dr. James L. Mathis, professor of psychiatry, presented "Stress" and "The Management of Stress" at a meeting of the Mid-Atlantic College Health Association Nov. 21 in Williamsburg, Va.

\* \* \*

Dr. E. Jackson Allison, chairman of emergency medicine, presented "Emergency Management of Flail Chest" at the South Carolina EMS symposium Dec. 2 in Myrtle Beach.

\* \* \*

Drs. Spencer Raab and Thomas O'Brien, both professors of medicine, recently participated in a physician exchange program with Toho University, Tokyo, Japan. During their 10-day visit Raab lectured on granulocyte kinetics and O'Brien discussed inflammatory bowel disease. ECU is sponsoring Toho university professors Tetsuyuki Hirahata and Junjiro Kobayashi in a one-year exchange program here.

\* \* \*

The Department of Obstetrics and Gynecology has received an \$18,888 grant from the National Foundation of the March of Dimes. The grant will support the addition of a perinatal social worker to assist patients receiving care in the medical school's high-risk obstetrical and perinatal clinics.

Charles Sweat, director of the ambulatory service clinics, has been named to the American College of Hospital Administrator's Committee on the Silver Medal Award for notable and outstanding contributions to the health field.

\* \* \*

Dr. Richard Merrill, associate professor of medicine, is co-author of "Scanning Electron Microscopic Observations on Glomeruli," an article appearing in the *Archives of Pathology and Laboratory Medicine*.

\* \* \*

Dr. Irvin Blose, professor of psychiatry, presented "Recent Advances in Alcoholism" at the UNC-CH graduate school of public health Nov. 26. Blose also presented "The Status of Medical Teaching in Alcoholism" at a meeting of the Raleigh chapter of the National Council of Alcoholism.

\* \* \*

Dr. Kathleen W. Rao has been appointed director of the cytogenetics laboratory and instructor of pediatrics.

Rao will coordinate the development of the new lab in the medical school's Developmental Evaluation Clinic. The lab will assist physicians in diagnosing children with birth defects and mental retardation.

## TEGA-VERT CAPSULES

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### Each capsule contains:

Pentylenetetrazol (Metrazol).....	50 mg.
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**ADMINISTRATION & DOSAGE:** One or two capsules three or four times daily before or after meals.

**INDICATIONS:** TEGA-VERT is indicated in the symptomatic management of idiopathic vertigo, as well as that associated with Meniere's Syndrome, Arterial Hypertension, Labyrinthitis, Fenestration Procedures, Radiation Sickness and Tonic Effect. TEGA-VERT has also been of value in patients with clinical symptoms of senility and functional cerebral impairment as well as symptomatic nausea.

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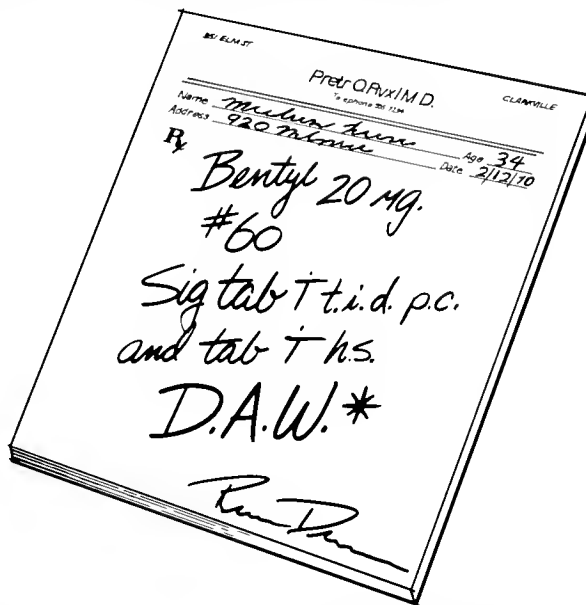


...in the functional bowel/irritable bowel syndrome<sup>†</sup>

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(dicyclomine hydrochloride USP)

20 mg. capsules, 20 mg. tablets,  
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- ⊗ Pharmacologic effect in the distal colon compared to placebo<sup>††</sup> shows how Bentyl affects abnormal motor activity in the irritable colon patient.<sup>†</sup>

<sup>†</sup>This drug has been classified "probably" effective for this indication.

**Merrell**

<sup>††</sup> In the experiments that showed significant pharmacologic effect, the dose of Bentyl used was 50 mg. I.M., which is higher than that permitted in the labeling. This dose was deemed justified since the recommended daily dose of injectable Bentyl is 20 mg. (2 ml.) every 4 to 6 hours. Thus, in 8 hours, a patient could receive a total of 60 mg. I.M. and at that time, as a result of the sustained plasma levels from the 20 mg. injections at 0 and 4 hours, might show an even higher plasma level that occurs after a single 50 mg. I.M. dose. Presumably, the same pharmacologic effect would follow. These observations do not constitute evidence of efficacy.

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AVAILABLE ONLY ON PRESCRIPTION  
Brief Summary

## INDICATIONS

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the following indications as "probably" effective:

For the treatment of functional bowel/irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS.

For use in the treatment of infant colic (syrup).

Final classification of the less-than-effective indications requires further investigation.

**CONTRAINDICATIONS:** Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy); obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis); paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrhage; severe ulcerative colitis; toxic megacolon complicating ulcerative colitis; myasthenia gravis.

**WARNINGS:** In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. There are rare reports of infants, 6 weeks of age and under, administered dicyclomine hydrochloride syrup, who have evidenced respiratory symptoms (breathing difficulty, shortness of breath, breathlessness, respiratory collapse, apnea), as well as seizures, syncope, asphyxia, pulse rate fluctuations, muscular hypotonia, and coma. The above symptoms have occurred within minutes of ingestion and lasted 20 to 30 minutes. The timing and nature of the reactions suggest that they were a consequence of local irritation and/or aspiration rather than a direct pharmacologic effect. No known deaths or permanent adverse effects have been reported. Bentyl syrup should be used with caution in this age group.

**PRECAUTIONS:** Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy.

Use with caution in patients with:

Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon.

Hypertension, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension.

Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur.

**ADVERSE REACTIONS:** Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia; urinary hesitancy and retention; blurred vision and tachycardia; palpitations; mydriasis; cycloplegia; increased ocular tension; loss of taste; headache; nervousness; drowsiness, weakness; dizziness; insomnia; nausea; vomiting; impotence; suppression of lactation; constipation; bloated feeling, severe allergic reaction or drug idiosyncrasies including anaphylaxis; urticaria and other dermal manifestations; some degree of mental confusion and/or excitement, especially in elderly persons; and decreased sweating. With the injectable form there may be a temporary sensation of light-headedness and occasionally local irritation.

**DOSAGE AND ADMINISTRATION:** Dosage must be adjusted to individual patient's needs.

*Usual Dosage*

Bentyl 10 mg. capsule and syrup: *Adults:* 1 or 2 capsules or teaspoonfuls syrup three or four times daily. *Children:* 1 capsule or teaspoonful syrup three or four times daily. *Infants:* ½ teaspoonful syrup three or four times daily. (Dilute with equal volume of water.)

Bentyl 20 mg.: *Adults:* 1 tablet three or four times daily.

Bentyl Injection: *Adults:* 2 ml. (20 mg.) every four to six hours intramuscularly only.

NOT FOR INTRAVENOUS USE

**MANAGEMENT OF OVERDOSE:** The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanechol chloride USP) should be used.

Product Information as of July, 1980

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Rao recently completed doctoral studies at the University of North Carolina-Chapel Hill, where she was a research assistant and former supervisor of the cytogenetics and cell culture laboratory in the pediatrics department.

She received her undergraduate degree from the College of William and Mary, Williamsburg, Va.

\* \* \*

Schering Corporation, a pharmaceutical company based in Bloomfield, N.J., has donated \$2,000 in equipment and supplies to supplement patient care and teaching programs at the East Carolina University School of Medicine and Pitt County Memorial Hospital. The award provides a programmable calculator and printer and audiovisual materials.

\* \* \*

More than 90 babies — along with their parents, brothers and sisters — attended the first reunion of former patients in the neonatal intensive care unit at Pitt County Memorial Hospital. The December party featured Santa Claus for the children and a chance to renew friendships for the approximately 400 who attended. The unit, which is operated by the medical school's Department of Pediatrics and supported with state perinatal funds, has provided care for more than 600 babies since it opened in 1978.

## News Notes from the

### UNIVERSITY OF NORTH CAROLINA- CHAPEL HILL SCHOOL OF MEDICINE AND NORTH CAROLINA MEMORIAL HOSPITAL

A new service being developed by the division of rehabilitation counseling in the School of Medicine is aimed at improving the employment outlook for workers with arthritis, particularly those in the state's textile mills.

Arthritis is the leading cause of industrial absenteeism in this country, accounting for an estimated 27 million lost work days a year and \$5 billion in lost wages.

The Industrial Rheumatology Rehabilitation Service is being set up in cooperation with the North Carolina Chapter of the Arthritis Foundation, the State Division of Vocational Rehabilitation Services and several major industries. The federal Rehabilitation Service Administration is providing \$450,000 to fund the service for the first three years.

"This is designed to be an innovative, model program for identifying and solving some of the problems faced by workers with arthritis. As far as we know, this is the first direct link between industry, rehabilitation services and an academic medical center for the

purpose of dealing with a specific health problem that has such a profound impact on industrial workers and industry itself," said Dr. Kenneth Mitchell, associate professor and director of the division of rehabilitation counseling.

\* \* \*

Dr. Harold R. Roberts, professor of medicine and pathology, has been appointed to the National Heart, Lung and Blood Advisory Council of the National Heart, Lung and Blood Institute.

As a council member, Roberts will take part in the evaluation of NHLBI programs concerned with cardiovascular, lung and blood diseases and will make recommendations to director of NHLBI and the National Institutes of Health concerning directions, goals and priorities of these programs. His term runs through 1984.

\* \* \*

Dr. William E. Easterling, medical school vice dean and hospital chief of staff, and Dr. John T. Sessions, professor of medicine, recently were recognized for distinguished service by the American Cancer Society. They were cited for their strong leadership and years of support of the American Cancer Society and its programs. The physicians received two of the three

national divisional service awards presented in North Carolina.

\* \* \*

Dr. William J. Anderson, resident in orthopedics, presented a paper titled "Fractures of the Diaphysis of the Radius and Ulna in Adults: An End Result Study" to the combined meeting of the North and South Carolina Orthopedic Associations Sept. 13 at Kiawah Island, S.C. Dr. Frank C. Wilson, professor and division chief of surgery, was co-author of the paper.

\* \* \*

Charles R. Hackenbrock, professor and chairman of anatomy, and Dr. John J. Lemasters, assistant professor of anatomy, presented papers at the First European Bioenergetics Conference June 29 — July 5 in Urbino, Italy. Lemasters also presented a paper on "Dynamic Measurement of AIP with Firefly Luciferase Bioluminescence" at the Second Internal Symposium on Bioluminescence and Chemiluminescence Aug. 26-28 in San Diego.

\* \* \*

Jean M. Lauder, associate professor of anatomy, presented invited lectures at Mt. Sinai School of Medicine, Department of Anatomy, Sept. 10 in New

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## Also highly effective against roundworm and hookworm

Since whipworm, roundworm and hookworm are all soil-borne helminths, mixed infections are not uncommon. Only one anthelmintic exhibits high efficacy rates for all three nematodes: whipworm—68%; roundworm—98%; hookworm—96%. That agent is VERMOX<sup>®</sup>.

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## Broad-spectrum coverage in mixed helminthic infections

**Vermox<sup>®</sup>** TABLETS  
(mebendazole)



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## Broad-spectrum coverage in mixed helminthic infections

# Vermax<sup>®</sup> TABLETS (mebendazole)

**Contraindications** VERMAX is contraindicated in pregnant women (see: Pregnancy Precautions) and in persons who have shown hypersensitivity to the drug.

**Precautions** PREGNANCY: VERMAX has shown embryotoxic and teratogenic activity in pregnant rats at single oral doses as low as 10 mg/kg. Since VERMAX may have a risk of producing fetal damage if administered during pregnancy, it is contraindicated in pregnant women.

**PEDIATRIC USE:** The drug has not been extensively studied in children under two years; therefore, in the treatment of children under two years the relative benefit/risk should be considered.

**Adverse Reactions** Transient symptoms of abdominal pain and diarrhea have occurred in cases of massive infection and expulsion of worms.

**Dosage and Administration** The same dosage schedule applies to children and adults. The tablet may be chewed, swallowed or crushed and mixed with food. For the control of pinworm (enterobiasis), a single tablet is administered orally, one time.

For the control of roundworm (ascariasis), whipworm (trichuriasis), and hookworm infection, one tablet of VERMAX is administered, orally, morning and evening, on three consecutive days.

If the patient is not cured three weeks after treatment, a second course of treatment is advised. No special procedures, such as fasting or purging, are required.

\* Mean cure rate of VERMAX<sup>®</sup> in treating whipworm; cure rate range of 61-75%. Data on file at Janssen Pharmaceutica Inc.

\*\* Mean egg reduction of VERMAX<sup>®</sup> in treating whipworm; egg reduction range of 70-99%. Data on file at Janssen Pharmaceutica Inc.

† Rollo, I.M.: Drugs used in the chemotherapy of helminthiasis, in Goodman, L.S.; and Gilman, A. (eds.): *The Pharmacological Basis of Therapeutics*, ed. 5. New York, Macmillan, 1975, p. 1034.

†† Miller, M.J.; Krupp, I.M.; Little, M.D.; Santos, C.: Mebendazole an effective anthelmintic for trichuriasis and enterobiasis. *JAMA* 230 (10): 1412-1414, Dec. 9, 1974.

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2. Registered trademark of Roerig.
3. Registered trademark of Parke-Davis.



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because so much remains to be done.*

York and at the N.C. State University Department of Zoology Sept. 18 in Raleigh.

\* \* \*

Dr. Walter B. Greene, assistant professor of surgery, was a guest speaker at a symposium on "Hemophilia and Related Disorders" sponsored by the Hemophilia Program of the State of Missouri, Oct. 3-4. Greene spoke on "Musculoskeletal Management of Hemophilia."

\* \* \*

Dr. William H. Bowers, associate professor of surgery, was elected president of the Southeastern Hand Club at its annual meeting Sept. 19 in Point Clear, Alabama. This club is composed of orthopedists in the southeastern United States whose primary practice is hand surgery.

\* \* \*

Dr. Benson R. Wilcox, professor and division chairman of surgery, and Dr. Gordon F. Murray, associate professor of surgery, attended the annual sessions of the American College of Surgeons Oct. 22-26 in Atlanta. Wilcox served as moderator for "Newer Diagnostic Techniques in Thoracic Surgery" for the ACS postgraduate course in cardiothoracic surgery. Murray presented a scientific film, "Excision of Right Ventricular Myxoma," prepared by Murray, Wilcox, and Ormond C. Mendes.

\* \* \*

Dr. Frank C. Wilson, professor and division chief of surgery, presented a talk on "Preclinical Curriculum Development in Orthopaedic Surgery" at the American College of Surgeons Oct. 23 in Atlanta. Wilson also was moderator of a panel on "Competitive Marketing and Medical Services and its Potential Effect on Medical Education" at the American Association of Medical Colleges Oct. 26 in Washington, D.C.

\* \* \*

Dr. Gordon Burnett, associate professor of psychiatry and director of Psychopharmacology Clinic, authored "Neuropsychiatric syndrome in hemodialysis: a review" published in *Dialysis and Transplantation*, Vol 9, October 1980.

\* \* \*

Dr. Kenneth Sugioka, chairman and professor of anesthesiology, presented a paper at the 7th World Congress of Anesthesiologists on "Continuous Measurement of PaCO<sub>2</sub>, pH, Bicarbonate in Humans Undergoing Anesthesia" Sept. 13-20 in Hamburg, Germany.

\* \* \*

Dr. Joseph S. Pagano, director of the Cancer Research Center and professor of medicine, bacteriology and immunology, chaired a session on Glycoproteins and Immunology at the 5th Cold Spring Harbor meet-

ing on herpes viruses at Cold Spring Harbor Laboratory Aug. 26-31 in Cold Spring Harbor, N.Y. Members of the Cancer Research Center who gave presentations at the meeting included: James E. Shaw, research assistant professor of bacteriology and immunology, on "Polypeptides Associated with the EBV DNA of Superinfected Raji Cells"; Lindsey M. Hutt-Fletcher, research assistant professor of bacteriology and immunology, on "EBV Receptor — Partial Purification and Relationship to the C3d Receptor"; John Baskar, research associate, on "Persistent Infection of Murine Cytomegalovirus in Murine Carcinoma F9 Cells"; Robert J. Feighny, postdoctoral fellow, on "EBV Early Polypeptides — Identification, Synthesis, Glycosylation, and Phosphorylation"; Eng-Chun Mar, research associate, on "Virus-Specific Structural Proteins, DNA-Binding Proteins and Phosphorylated Proteins in Human Cytomegalovirus Virions and Virus-Infected WI-38 Cells"; John G. Nedrud, research associate, on "Attenuation of Murine Cytomegalovirus (MCMV) in vitro and in vivo"; Brenda Colby, bacteriology and immunology, on "Phosphorylation of Acyclovir in EBV-Infected Lymphoblastoid Cell Lines" and "Characterization of P3HR-1 Cells Following Prolonged Exposure to Acyclovir"; Alok K. Datta, research associate, on "Mode of Inhibition of EBV DNA Polymerase by Acyclovir Triphosphate"; Istvan Boldogh, postdoctoral fellow, on "Transformation of Human Embryonic Lung Cells by Restriction Endonuclease (Xba) Fragmented DNA of Cytomegalovirus"; and Berch Henry II, postdoctoral fellow, on "An EBV-Associated DNase Activity Appearing in Superinfected Raji Cells."

Dr. Pagano also attended the annual meeting of the Infectious Diseases Society of America Sept. 25.

\* \* \*

Edward P. Chaney, associate professor of radiology, traveled to France recently to present a paper at the International Symposium on Biomedical Dosimetry Physical Aspects, Instrumentation, Calibration. He also was visiting professor at Centre Georges-Francois Leclerc in Dijon.

\* \* \*

Dr. John A. Ewing, professor of psychiatry and director of the center for alcohol studies, presented a paper on "Alcohol Research in the 1980s: Implications for Prevention and Treatment" at ALC 80, An International Conference on Alcoholism at the University of Bath Sept. 20-24 in Avon, England; on "Biomedical Predisposing and Protecting Factors in Alcohol Use and Abuse" at the International Symposium on Prevention and Research on Alcoholism Sept. 25-26 in The Hague, The Netherlands; on "Explaining Alcoholism: What Does Research Tell Us and Where Does It Need to Go?" Oct. 4-6 at the 15th annual conference of the Japanese Medical Society of Alcohol Studies Oct. 4-6 in Kyoto, Japan.

#### News Notes from the—

### BOWMAN GRAY SCHOOL OF MEDICINE WAKE FOREST UNIVERSITY

Four new assistant professors have been appointed to the fulltime faculty of the Bowman Gray School of Medicine.

They are Dr. Donald R. Koritnik, comparative medicine; Dr. Thomas J. Poulton, anesthesia (intensive care unit); Dr. Peter W. Robie, medicine (endocrinology and general medicine); and Dr. Charles E. Welander, obstetrics and gynecology.

Other appointments went to Dr. David W. Griffith Jr., research instructor in neurology (neurosonology); Gail S. Marion, instructor in family medicine and allied health (physician assistant program); and Dr. Mary J. Ruebush, research instructor in microbiology and immunology.

Appointed to the part-time faculty were Dr. Carole L. Browne, associate in anatomy, and Dr. D. E. Ward Jr., lecturer in community medicine.

\* \* \*

Preliminary evidence from a research project at the Bowman Gray School of Medicine indicates that a diet high in alcohol content can delay the onset of puberty in young female laboratory animals.

That finding was revealed in the early stages of research being conducted by Dr. Walter J. Bo, professor of anatomy, and Dr. Wayne A. Krueger, associate professor of anatomy.

Female rats are being used as models to study the effects of alcohol on the reproductive system.

Not only did the researchers find that a diet high in alcohol content delays the onset of puberty, but its consumption also results in abnormal estrous cycles.

According to Dr. Bo, much more research will be needed before alcohol's influence on the developing female reproductive system can be confirmed.

But, he adds, the preliminary findings are of more than passing interest at a time when news stories report heavy drinking among pre-adolescent youngsters.

Female rats the same age as those with delayed puberty and abnormal estrous cycles but which were fed a diet low in alcohol content showed no abnormalities in their reproductive systems.

\* \* \*

E. Lawrence Davis III, Winston-Salem attorney, has been elected chairman of the Board of Trustees of North Carolina Baptist Hospital, Bowman Gray's principal teaching hospital.

Davis succeeds T. Clyde Collins of Greensboro. Davis's father and grandfather previously held the chairmanship of the board.



An anti-cancer treatment which Bowman Gray researchers were instrumental in developing has been shown to be effective against Hodgkin's disease while producing some unexpected benefits.

Not only is the treatment, called CVPP, effective in getting patients into remission and keeping them in remission, it also has a previously unsuspected role to play in helping patients who were in remission and who have relapsed back into active Hodgkin's disease.

Dr. Charles L. Spurr, director of Bowman Gray's Cancer Research Center, and Dr. M. Robert Cooper, professor of medicine, worked with Cancer and Acute Leukemia Group B (CALGB) in 1972 to propose CVPP. CALGB is an international organization consisting of 33 research institutions which cooperate in studies aimed at improving the care of cancer patients.

CVPP's initials stand for the four drugs it involves — CCNU, vinblastine, prednisone and procarbazine.

CVPP has proven to be less toxic than the standard treatment for Hodgkin's, which is known as MOPP. CVPP also has produced more patients who enter remission. And those remissions last equally as long as those produced by MOPP.

Patients with advanced Hodgkin's who were in remission and who suffer a relapse have responded better to CVPP than MOPP in efforts to put them back in remission.

CVPP is being combined with radiation in other research projects to see if that combination treatment is more effective than radiation alone in the treatment of patients with the earlier stages of Hodgkin's disease.

Dr. William H. Boyce, professor of urology, has been appointed to the Residency Review Committee of the American Board of Urology for 1980-83.

\* \* \*

Dr. Duane C. Budd, lecturer in community medicine, has been appointed to a four-year term on the Board of Medical Examiners for the state of Tennessee. He also has been elected president of the Tennessee Academy of Family Physicians.

\* \* \*

Dr. Claire L. Jurkowski, instructor in medicine, has been appointed to the editorial board of the University of Nebraska's "Mr. TIB" (Computerized Test Item Bank) program for physician assistants.

\* \* \*

Dr. Tad W. Lowdermilk, clinical instructor in surgery (emergency medicine), has been elected vice president of the North Carolina Chapter of the American College of Emergency Physicians.

\* \* \*

Dr. George Podgorny, clinical associate professor of surgery (emergency medicine), has been elected vice chairman of the Emergency Management Advisory Council of Winston-Salem/Forsyth County.

\* \* \*

Dr. Robert B. Taylor, associate professor of family medicine, has been elected to the editorial board of the "Family Practice Review Journal."

### Aneurysm

An aneurysm is the dilatation of an artery full of spiritous blood. It sometimes occurs externally, as in the hands and feet, or about the throat and chest; differing in this respect from a varix, that it is large, swollen, and has often an annoying pulsation. On the tumour being pressed upon, the matter contained within it disappears. It also sometimes occurs in the internal arteries, especially in the chest, or about the spleen and mesentery, where a violent throbbing is frequently observable.

It is scarcely credible that some imagine that in these affections the vein or artery is ruptured or opened; for if the blood had escaped from the vein or artery, it would soon putrefy, and give rise to a tumor of a different kind. — Jean Fernel, 1581.

# Month in Washington

The Reagan Administration formally took over the reins of office with high hopes for easing the nation's problems at home and abroad but with no illusions that the job will be easy. The new Congress, more conservative in number and outlook, met for the first time with its leaders and pledged their best efforts to help carry out the President's legislative programs.

One of the first orders of business was confirmation of Reagan's cabinet appointments, including that of former Sen. Richard Schweiker (R., Pa.) to be Secretary of the Health and Human Services (HHS) Department.

Congress faces a heavy agenda on health. Whether national health insurance will be seriously considered depends whether the Reagan Administration chooses to push some plan such as "pro-competition" or catastrophic, both of which received favorable comment during the campaign.

Administration plans to deregulate aspects of health, to make economies, and possibly to eliminate some programs appear to be in the works.

Many major health programs are due to expire in the next two years and must be re-authorized by Congress. This will afford the Administration opportunity to request major changes. The list of programs requiring such action includes Health Services Research, Statistics and Technology; Grants to States for Health Services; Primary Health Centers; National Health Service Corps; Home Health Services; Primary Care Research and Demonstration Projects; Medical Libraries; National Research Institutes; Health Research and Teaching Facilities and Training of Professional Health Personnel; Student Assistance; Capitation Grants to Schools of Medicine, etc.; Nurse Training; Family Planning; Genetic Diseases; Sudden Infant Death Syndrome; Hemophilia; Health Maintenance Organizations; Health Planning; Health Resources Development; Health Information and Health Promotion; President's Commission on Ethics and Research; Developmental Disabilities Protection and Alcohol and Drug Abuse Programs.

The last Congress failed to act on important bills that carry over into the new session. The HHS Department appropriations measure and aid-for-medical-education are the two major bills in this category. The Child Health Assurance bill, a priority of the Carter Administration, may be put on the shelf in the new Congress, though it still has substantial support. The Hospital Cost Containment bill is beyond salvage.

The medical education bill may face careful scrutiny. Both House and Senate last year approved

measures reducing capitation aid for medical schools, but they could not agree on specifics.

Health Maintenance Organizations are worried that their allotments from the government will be decreased. The National Health Service Corps comes under a HHS Secretary in Schweiker who has been very critical of its growth. The Health Planning bill can expect formidable conservative opposition.

Two major Senate health committees have several new members: the Republicans hold a two-seat edge in both groups — Senate Finance and Senate Labor and Human Resources.

Sen. Edward Kennedy (D., Mass.) chose to become the ranking minority member of the Human Resources Committee rather than of the Senate Judiciary Committee, so that he will be able to have a forum from which to lead the opposition on health affairs. Sen. Harrison Williams (D., N.J.), former chairman of the Human Resources Committee, chose to be the top Democrat on another committee.

Here is the membership of the two committees that guide most health legislation in the Senate:

## SENATE FINANCE

### Republicans

Robert Dole (Kans.)  
Bob Packwood (Ore.)  
William Roth (Del.)  
John Danforth (Mo.)  
John Chafee (R.I.)  
John Heinz (Pa.)  
Malcolm Wallop (Wyo.)  
David Durenberger (Minn.)  
William Armstrong (Colo.)  
Steven Symms (Idaho)  
Charles Grassley (Iowa)

### Democrats

Russell Long (La.)  
Harry Byrd (Va.)  
Lloyd Bentsen (Texas)  
Spark Matsunaga (Hawaii)  
Daniel Moynihan (N.Y.)  
Max Baucus (Mont.)  
David Boren (Okla.)  
Bill Bradley (N.J.)  
George Mitchell (Maine)

## SENATE LABOR AND HUMAN RESOURCES

### Republicans

Orrin Hatch (Utah)  
Robert Stafford (Vt.)  
Gordon Humphrey (N.H.)  
Dan Quayle (Ind.)  
Don Nickles (Okla.)  
Jeremiah Denton (Ala.)  
Paula Hawkins (Fla.)  
Lowell Weicker (Conn.)  
John East (N.C.)

### Democrats

Edward Kennedy (Mass.)  
Harrison Williams (N.J.)  
Jennings Randolph (W. Va.)  
Claiborne Pell (R.I.)  
Thomas Eagleton (Mo.)  
Donald Riegle (Mich.)  
Howard Metzenbaum (Ohio)

In the House, Rep. Dan Rostenkowski (D., Ill.) assumed chairmanship of the House Ways and Means Committee in the next Congress rather than become minority whip. His predecessor, Al Ullman (D., Ore.) was defeated for reelection.

# OFFICIAL CALL HOUSE OF DELEGATES

pursuant to the Bylaws, Chapter V, Section 1:

## HOUSE OF DELEGATES Meetings scheduled

**Notice to: Delegates, Alternate Delegates, Officials of the North Carolina Medical Society, and Presidents and Secretaries of county medical societies.**

Sessions of the HOUSE OF DELEGATES will convene in the Cardinal Ballroom, Pinehurst Hotel, Pinehurst, North Carolina, at the following times:

**Thursday, May 7, 1981—10:00 a.m.—Opening Session**  
**Saturday, May 9, 1981—2:00 p.m.—Second Session**

A member of the CREDENTIALS COMMITTEE will be present at the Desk in the Hotel Lobby, Wednesday, May 6, 1981, 3:00 p.m. to 5 p.m., and Thursday, May 7, 1981, 8:30 a.m. to 10:00 a.m. to certify Delegates. Delegates are urged to bring their Credential Cards for presentation at the Registration Desk. Delegate Badges must be worn to be seated in the HOUSE OF DELEGATES.

## REFERENCE COMMITTEE HEARINGS

Reference Committee hearings are scheduled to begin Thursday, May 7, 1981, at 2:00 p.m.

FRANK SOHMER, M.D., President  
HENRY J. CARR, JR., M.D., Speaker  
JACK HUGHES, M.D., Secretary  
WILLIAM N. HILLIARD, Executive Director

The nomination of Schweiker to be Secretary of Health and Human Services (HHS) brings to the post a man widely versed in health affairs.

The 54-year-old Schweiker, who had announced last year that he would not seek re-election to the Senate, was the early front runner in speculation about the HHS post. Schweiker has been a close friend of Reagan's since he agreed to run for vice president if Reagan had been nominated four years ago. As ranking Republican on the Senate Labor and Human Resources Committee and on its Health subcommittee, he has an extensive knowledge of health legislation and of the Federal health structure.

Schweiker has expressed strong convictions about certain aspects of health, notably reservations about the extent of aid for medical education and for the National Health Service Corps.

In an interview last summer, Schweiker said a Reagan Administration will not endorse national health insurance or hospital cost containment and will move to "deregulate."

Schweiker is the author of a "pro-competition" plan that would eliminate most of the present tax deductions for private health insurance in an effort to encourage more cost-consciousness by business and consumers.

"You certainly will see a stop to the rush to federalize things," Schweiker said. But he cautioned that reversing the trend will take time. "There is so much momentum that it will take acts of Congress to repeal some programs," he said.

Federal involvement in health has not produced solutions to the nation's health problems, he said. "We are cautious and skeptical about involving the government further. In fact, we are looking at ways to decrease the government's role."

The senator said Health Maintenance Organizations should have their "full day in the sun," but "we should not build upon a system that favors one mode of competition over another."

As for medical schools, he said "we must give them protection if we step on the brakes. We can't leave the institutions high and dry."

Schweiker said the organizational structure at HHS is haphazard and suggested there would be moves to get the "health components working together."

\* \* \*

The nominations of Schweiker to be HHS Secretary and of former Rep. Dave Stockman (R., Mich.) to be Director of the Office of Management and Budget brought to the cabinet two proponents of the so-called "pro-competition" health plan.

"Pro-competition" measures remove the current federal tax subsidy for purchase of private health insurance. People would receive tax-free rebates when they choose plans costing less than a set amount of premiums. High deductibles and co-insurance are encouraged. Most such bills before Congress include a catastrophic benefit as a requirement for private in-

surors. The intent is to foster competition among insurers to encourage innovation, improve efficiency and reduce waste. Much of the present regulatory apparatus, including Professional Standards Review Organizations (PSROs) and health planning, would be stripped away.

One of the major bills before the House was sponsored by Stockman and Rep. Richard Gephardt (D., Mo.). Sen. David Durenberger (R., Minn.), who may be chairman of the Senate Finance Subcommittee on Health, is a pro-competition backer.

\* \* \*

The HHS Department foresees wide organizational shifts. The Reagan team has been considering proposals to bring education back into the agency, eliminating the new Education Department created by President Carter. Significant changes appear inevitable at the Health Care Financing Administration (HCFA) which runs Medicare and Medicaid. There is sentiment for creation of a cabinet-level Health Department. A stronger policy role is in the works for the Public Health Service (PHS).

Former HHS Secretary Patricia Harris proposed a new structure consisting of two HHS Under Secretaries, one for health, the other for Social Security. This would help solve problems created by the present awkward arrangement under which HCFA, controlling the two largest federal health programs, is separate from the Public Health Service. Harris proposes that HCFA report to the Health Under Secretary.

\* \* \*

Many changes were made in the Medicare and Medicaid programs as a result of the passage of the Budget "Reconciliation" bill late in the Congressional "lame duck" session.

Most of the controversial provisions affecting the medical profession were dropped from the bill as were the sweeping changes in hospital reimbursement that had been approved by the Senate.

Here are some of the major provisions that were enacted:

\*Professional Standards Review Organizations—No PSRO will be required to make records available pursuant to a Freedom of Information Act request until one year after the entry of a final Court order requiring such disclosure.

\*Home Health—Unlimited home health care benefits would be made available under both Parts A and B; the three-day prior hospitalization requirement would be eliminated; the \$60 deductible under Part B would be waived; occupational therapy would be added as a benefit criterion, and the state licensing requirement would be waived.

\*Alcohol—Medicare will reimburse for inpatient alcohol detoxification services in free-standing facilities meeting health and safety standards.

\*Tests—Diagnostic tests performed for out-

patients in the Outpatient Department of a hospital or a physician's office within seven days of a patient's admission to the hospital would be reimbursed in full.

**\*Rehabilitation**—Permits reimbursement under Medicare for comprehensive outpatient rehabilitation facilities under Part B based on the costs incurred in furnishing covered services, including: physicians' services, nursing care, physical therapy, occupational therapy, speech pathology, respiratory therapy, social and psychological services, prosthetic devices, drugs and biologicals, supplies, appliances, equipment and other items which are necessary for the rehabilitation of the patient.

**\*Outpatient Surgery**—Medicare reimbursement is authorized for the facility cost of ambulatory surgical centers where that center has agreed to accept assignment. This reimbursement would be available when the center performed certain procedures that are considered "safe" and "appropriate" in an outpatient setting. The physician's reasonable charge for performing the procedures would be reimbursed at 100%, providing the physician also agrees to accept assignment. A physician who accepts assignment will receive additional Medicare reimbursement for performing certain listed surgical procedures in his or her office.

**\*Optometrists**—Coverage for optometrists' services to aphakic patients will be provided under Medicare. A study will be conducted to determine whether Medicare should reimburse optometrist services to cataract patients.

**\*Radiologists and Pathologists**—The special 100% reimbursement with no deductible for services to hospital inpatients by radiologists and pathologists would be limited to those who agree to accept assignment for all services furnished to hospital inpatients.

**\*Teaching Hospitals**—Alternate forms of reimbursement for professional services rendered by physicians in teaching hospitals are provided. Hospitals having approved teaching programs may elect to be paid for the services of those programs on a reasonable cost basis providing that all physicians involved in the teaching program elect to be paid on such a basis. Alternatively, physicians could elect to receive reimbursement on the basis of reasonable charges under Part B if conditions are met.

**\*Rural Hospitals**—The HHS Secretary would be authorized to apply Medicare standards to rural hospitals in a flexible manner to take into account the availability of qualified personnel, etc.

**\*Transfer for Skilled Nursing Facility Coverage**—The 14-day period within which a Medicare beneficiary must be transferred from a hospital to a skilled nursing facility in order to qualify for post-hospital extended care benefits would be extended to thirty days.

**\*Clinical Labs**—Payment for laboratory services will be limited to the lower of the laboratory's reasonable charge, or the actual amount billed by the physician plus a nominal fee to cover his or her costs.

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### Extra-Systoles

. . . *The dropped beat.* — In many cases the finger fails to recognize the small pulse beat due to an early occurring systole. In such cases it is usual to assume that either the heart has missed a beat, or that it has sent on a wave too small to be recognized. What usually happens is that the ventricle has made a premature systole, but the force has been so small that it has not been able to overcome the pressure in the aorta and open the aortic valves, or that having done so, the wave of blood sent forth has not been of sufficient strength to be felt by the finger. The duration of the period including the long pause and the preceding beat will often be found to correspond accurately to two cardiac cycles, as represented by two beats of the pulse. — James Mackenzie.

# In Memoriam

## KENNETH GARBER BARTELS, M.D.

Dr. Kenneth Garber Bartels, 55, a surgeon in Hendersonville since 1959, died October 31 after a period of declining health.

He was a native of Michigan City, Ind., a son of Elsie Garber Medford of Michigan City and the late Fred C. Bartels.

Dr. Bartels attended Purdue University, graduated from Yale University School of Medicine, completed his internship at St. Luke's Hospital in Chicago and took his residency and general surgery at Wayne State University in Detroit. He was a fellow of the American College of Surgeons and was serving as chief of staff of Margaret Pardee Memorial Hospital at the time of his death. He had been president of the Henderson County Medical Society and was serving on the Western North Carolina Medical Peer Review Foundation at the time of his death. He was a Navy veteran and a member of the First Presbyterian Church of Hendersonville.

Surviving in addition to his mother are his wife, the former Emily Tarver; three daughters, Victoria Bartels of New York City, Mary Garber Bartels of Chapel Hill and Emily Carol Bartels of Lititz, Pa.; and a sister, Marjorie Dwyer of Michigan City.

Henderson County Medical Society



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**PHYSICIAN ASSISTANTS —** Would a Physician Assistant be of benefit to your practice? The North Carolina Academy of Physicians' Assistants responds promptly to physician inquiries. Contact: Paul C. Hendrix, P.A.-C, Chairman, Employment Committee, 708 Duluth Street, Durham, North Carolina 27705. Telephone: (919) 684-6101.

**NORTH CAROLINA — Family Practice/Emergency Medicine.** Unique opportunity, immediate partnership available. Rapidly growing practice. Small hospital, rural area, two hours to Atlantic beaches. Starting from \$55,000 to \$60,000 guaranteed. Unlimited growth — excellent benefit package. Call or write about this excellent opportunity: Community Physicians, Inc. 113 Landmark Square, Virginia Beach, Virginia 23452 (804) 486-0844.

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**INTERNIST — NORTH CAROLINA —** An eight-man internal medicine private practice group in the Piedmont area of North Carolina is seeking a general internist for July, 1981. This is an excellent opportunity in a lovely progressive city of 170,000. Please address all replies to Mr. J. William Chappell, Business Manager, 338 North Elm Street, Suite 305, Greensboro, N.C. 27401 or call (919) 373-1379.

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- Contraindicated during pregnancy and the nursing period. During therapy, maintain adequate fluid intake; perform CBC's and urinalyses with microscopic examination.

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**Indications and Usage:** For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, *Proteus vulgaris*, *Proteus morgani*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

**Also for the treatment of documented *Pneumocystis carinii* pneumonitis.** To date, this drug has been tested only in patients 9 months to 16 years of age who were immunosuppressed by cancer therapy.

The recommended quantitative disc susceptibility method (*Federal Register*, 37:20527-20529, 1972) may be used to estimate bacterial susceptibility to Bactrim. A laboratory report of "Susceptible to trimethoprim-sulfamethoxazole" indicates an infection likely to respond to Bactrim therapy. If infection is confined to the urine, "Intermediate susceptibility" also indicates a likely response. "Resistant" indicates that response is unlikely.

**Contraindications:** Hypersensitivity to trimethoprim or sulfonamides; pregnancy; nursing mothers; infants less than two months of age.

**Warnings:** Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

**Precautions:** Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function.

**Adverse Reactions:** All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. *CNS reactions:* Headache,

peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

**Dosage:** Not recommended for infants less than two months of age.

*Urinary Tract Infections:* Usual adult dosage—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days.

Recommended dosage for children—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. A guide follows:

*Children two months of age or older*

Weight		Dose—every 12 hours	
		Teaspoonfuls	Tablets
lbs	kgs		
20	9	1 teasp. (5 ml)	½ tablet
40	18	2 teasp. (10 ml)	1 tablet
60	27	3 teasp. (15 ml)	1½ tablets
80	36	4 teasp. (20 ml)	2 tablets or 1 DS tablet

*For patients with renal impairment:*

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	½ the usual regimen
Below 15	Use not recommended

*Pneumocystis carinii pneumonitis:* Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

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Please see reverse side for summary of product information.

# North Carolina

## MEDICAL JOURNAL

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**1981 Annual Sessions:** May 7-10,  
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**1981 Committee Conclave:** Sept. 23-27,  
Southern Pines

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# Examine Me.

During the past several years, I have heard my name mentioned in movies, on television and radio talk shows, and even at Senate subcommittee sessions. And I have seen it repeatedly in newspapers, magazines, and yes, best-sellers. Lately, whenever I see or hear the phrases "overmedicated society," "overuse," "misuse," and "abuse," my name is one of the reference points. Sometimes even *the* reference point.

These current issues, involving patient compliance or dependency-proneness, should be given careful scrutiny, for they may impede my overall therapeutic usefulness. As you know, a problem almost always involves improper usage. When I am prescribed and taken correctly, I can produce the effective relief for which I am intended.

Amid all this controversy, I ask you to reflect on and re-examine my merits. Think back on the patients in your practice who have been helped through your clinical counseling and prudent prescriptions for me. Consider your patients with heart problems, G.I. problems, and interpersonal problems who, when their anxiety was severe, have been able to benefit from the medication choice you've made. Recall how often you've heard, as a result, "Doctor, I don't know what I would have done without your help."

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**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication, abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

**Use in Pregnancy:** Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

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2. G.I. Blood Loss Study: crossover design; 15 subjects; dosage—2 five-grain tablets q.i.d. over 7 days for each drug. Leonards, J.R. and Levy, G.: Effect of pharmaceutical formulation on gastrointestinal bleeding from aspirin tablets, *Arch. Intern. Med.* 129: 457, 1972. (Neolin is designated as Product A in this study).

3. Leonards, J.R. and Levy, G.: Biopharmaceutical aspects of aspirin-induced gastrointestinal blood loss in man. *J. Pharm. Sci.* 58:1277, 1969.

4. Salicylate Blood Level Study: crossover design; 9 subjects. Leonards, J.R. and Levy, G.: Effect of pharmaceutical formulation on gastrointestinal bleeding from aspirin tablets, *Arch. Intern. Med.* 129:457, 1972.

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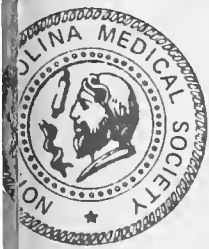


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# PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

NO. 10

MARCH 1981

Greetings:

SPRING TIME -- WONDERFUL!!! Your insurance company has requested that I remind you that Rocky Mountain Spotted Fever is endemic in North Carolina and 'tis the season! This, of course, is transmitted by tick bite. Seventy-five percent of cases occur under age 20 years. Mortality untreated is 20%. Over the age of 40 years, the mortality may exceed 50%. The highest mortality occurs in the rural non-white, elderly male with no history of tick bite. Remember, tick/fever/rash! Serologic confirmation may not be possible for a week.

Please make your plans now to attend the Annual Meeting of the North Carolina Medical Society in Pinehurst, May 7, 8, 9. The date for resolution submission to the House of Delegates has passed. Emergency resolutions may be presented to the House of Delegates for their consideration at the Annual Meeting however.

I believe that most physicians would agree that PSRO's in North Carolina have done a good job without disruption and unpleasantness. The dedication of the physician members of the eight corporation boards and their physician committees are to be commended! The Tar Heel PSRO Council is working in concert with these boards to respond to a Health and Human Services Regional Office request regarding redesignation, or a reduction in number, of PSRO's in North Carolina. A reduction in the number of PSRO's was in the plans even before the November elections. PSRO funding, nationally, is planned to be reduced from \$175 million to \$163 million. Administrative costs for the eight PSRO's in North Carolina (NOT THE MEDICAL REVIEW) is approximately \$1.8 million. The Regional Office in Atlanta has stated that redesignation will occur in North Carolina. Another meeting of the Tar Heel Council is planned for April 2nd to finalize a response.

The Executive Committee of the Committee on Legislation met with representatives of State Government on February 26th to discuss the Medicaid Program. A \$38 million reduction in federal funds is expected. Previously, the Division of Medical Assistance has sent letters to the county medical society presidents on February 18th requesting a response regarding the program by February 27th. Fortunately, we have more than 10 days to respond to alterations in a program which exceeds \$500 million per year. Forty-one percent of the total budget (over \$200 million) is extended into nursing home programs! This is for less than 5% of the eligible recipients in the program! Hospital expenditures continue in the range of 25%. Physicians are paid approximately 7%. A position paper with recommendations will be prepared for submission to the Legislature and State Government regarding the Medicaid Program in North Carolina. Your suggestions and directions for this program are solicited. I believe the priorities in this program are out of order!!

The North Carolina Commission on Prepaid Health Plans has published two informational brochures on prepaid health care in North Carolina. You may obtain copies of these brochures by contacting the Medical Society Headquarters Office, P. O. Box 27167, Raleigh, N.C. 27611, (919) 833-3836. There has not been a response to date to the Prepaid Commission Report or to the recommendation for a \$9 million loan guarantee fund which would be used to pay the startup and early operating cost of prepaid health plans.

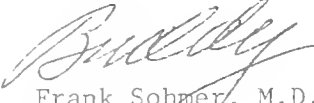
Cost of Medical care continues to be of significant concern to the employers, unions, public and government sectors. Physician percentage remains about the same of the total cost. We must consider all mechanisms to effect cost savings. Your individual practice pattern is the most responsive and effective method. Don't institutionalize or hospitalize unless absolutely necessary. I have made reference above to the \$200 million plus expended in the nursing home program by the Medicaid Program. I would remind you that for every patient in an institution, acute hospital or nursing home, some physician has signed for the admission, made arrangements for or ordered the admission. Other equally effective, less costly care must be utilized. Your practice patterns are the place to begin. In April, I will be asking the Council to discuss and possibly develop a task force to work with industry in the cost containment effort. This has been ongoing with the AMA and some national corporations. Some county societies are in the process of this undertaking in this state. The State Society must provide this leadership. We must meet with and join industry and continue our efforts to preserve our most excellent medical care system. Your participation and suggestions would be welcomed by your Councilors and by myself.

I would remind you of the Third Annual Health Law Forum at East Carolina University in Greenville, N.C., on April 9-10. This is an excellent overview of the professional liability situation in North Carolina. For further information contact Joan Logsdon, Eastern AHEC, P. O. Box 7224, Greenville, N.C. 27834, (919) 758-5200.

Over twenty physicians have served as "Legislative Physician" to the members of the North Carolina General Assembly. These doctors are to be commended for providing a unique service to their state.

On the legislative front, your Committee on Legislation has been busy dealing with issues ranging from a rewrite of the Nurse Practice Act to Generic Drug Substitution. If you receive a notice to contact your legislators on a given bill, please respond immediately. You won't be asked if its not important.

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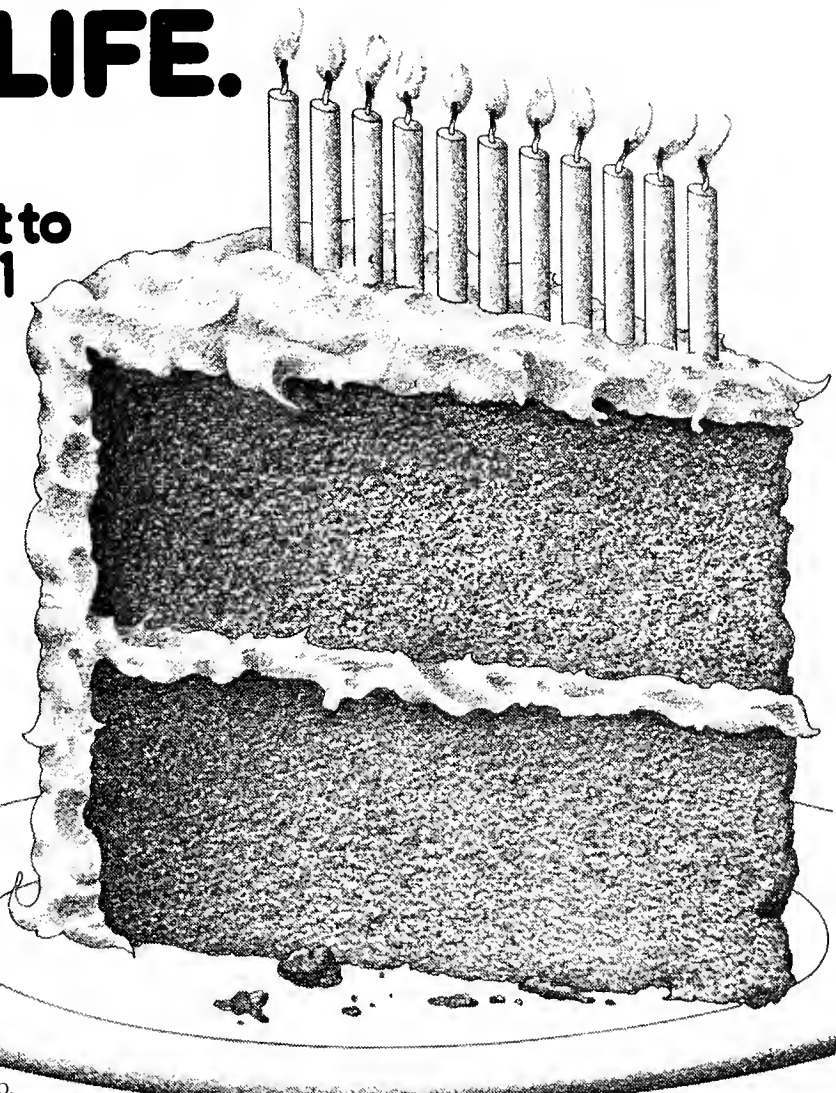
**5** Watch your weight.  
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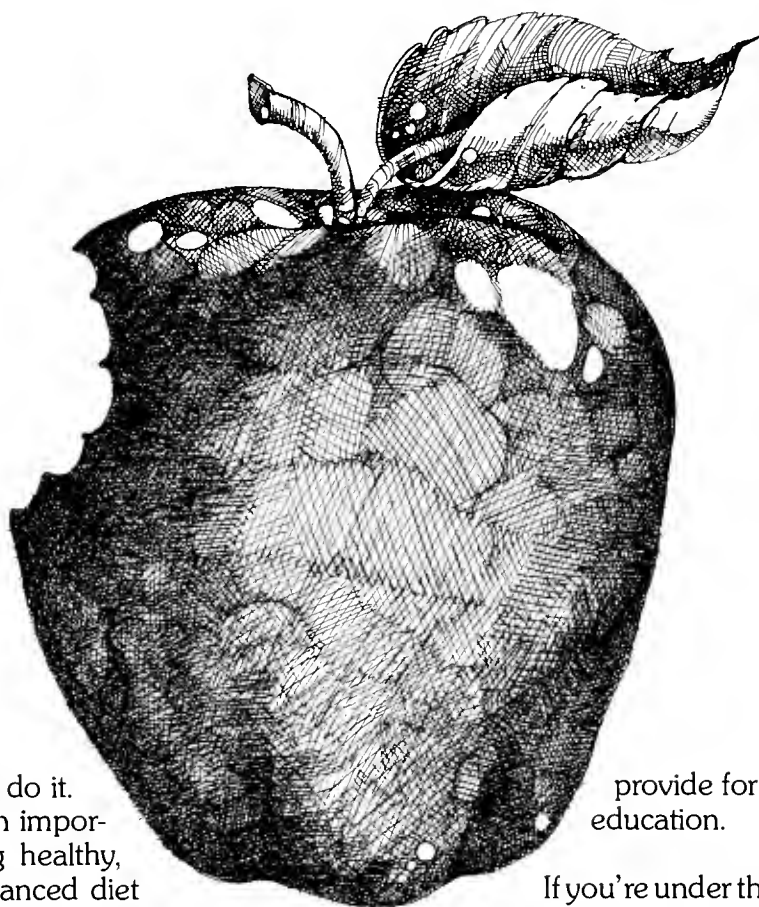
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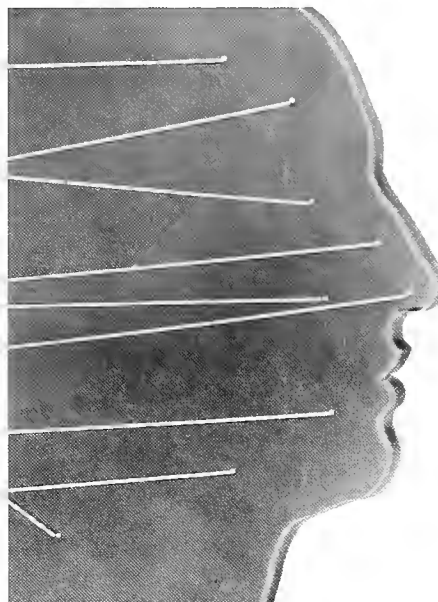
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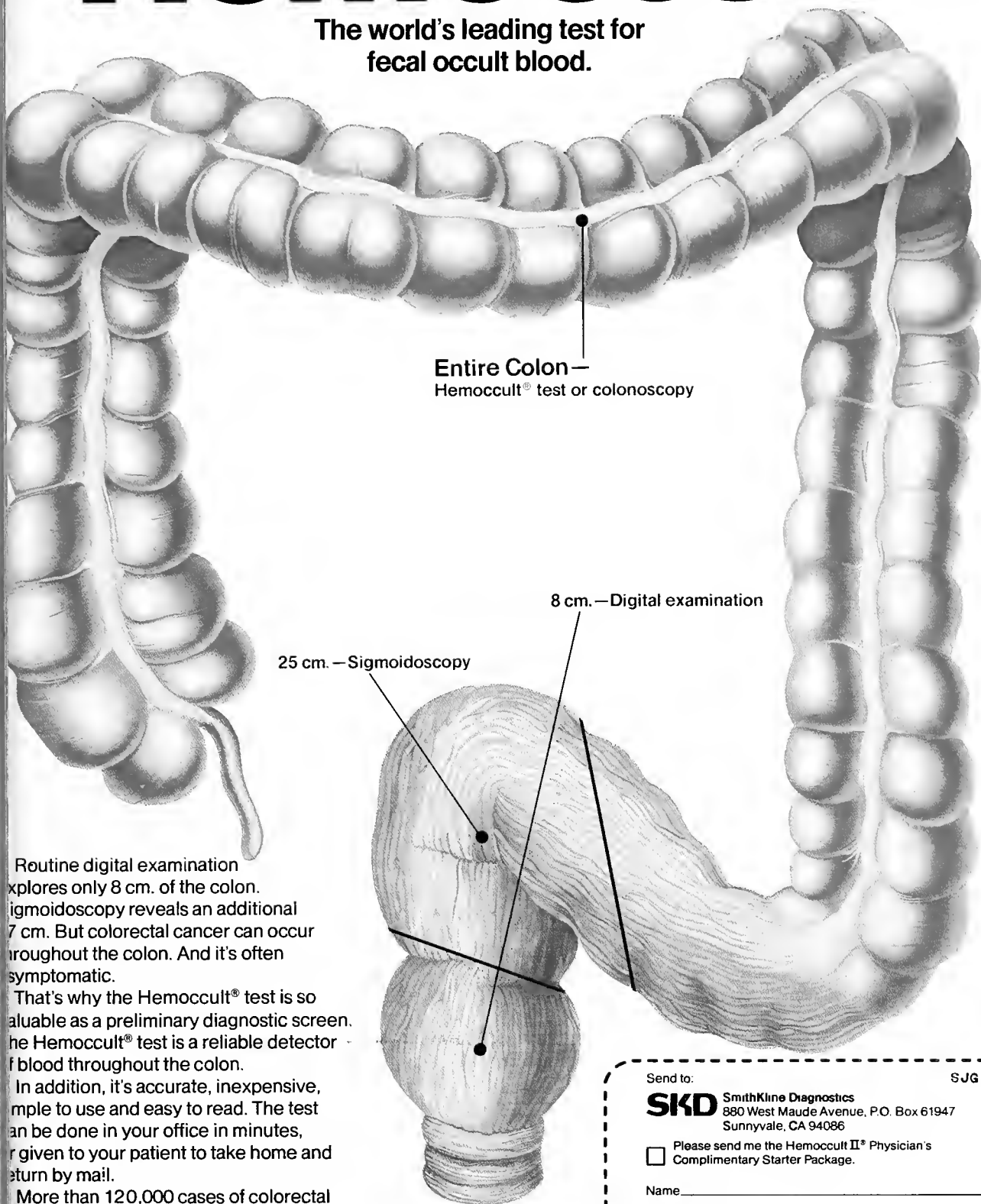
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**WARNINGS:**

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**Use in ambulatory patients:** Empirin with Codeine may impair the mental and/or physical abilities required for the performance of potentially hazardous tasks such as driving a car or operating machinery. The patient using this drug should be cautioned accordingly.

**Interaction with other central nervous system (CNS) depressants:** Patients receiving other narcotic analgesics, general anesthetics, phenothiazines, other tranquilizers, sedative-hypnotics, or other CNS depressants (including alcohol) concurrently with Empirin with Codeine may exhibit an additive CNS depression. When such combined therapy is contemplated, the dose of one or both agents should be reduced.

**Use in pregnancy:** Safe use in pregnancy has not been established relative to possible adverse effects on fetal development. Therefore, Empirin with Codeine should not be used in pregnant women unless, in the judgment of the physician, the benefits outweigh the possible hazards.

**PRECAUTIONS:**

**Head injury and increased intracranial pressure:** The respiratory depressant effects of narcotics and their capacity to elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions, a pre-existing increase in intracranial pressure. Furthermore, narcotics produce adverse reactions which may obscure the clinical course of patients with head injuries.

**Acute abdominal conditions:** The administration of Empirin with Codeine or other narcotics may obscure the diagnosis or clinical course in patients with acute abdominal conditions.

**Allergic:** Precautions should be taken in administering salicylates to persons with known allergies; patients with asthma are more likely to be hypersensitive to aspirin.

**Special risk patients:** Empirin with Codeine should be given with caution to certain patients such as the elderly, debilitated, and those with severe impairment of hepatic or renal function, hypothyroidism, Addison's disease, pheochromocytoma, or urethral stricture, peptic ulcer, or coagulation disorders.

**ADVERSE REACTIONS:** The most frequently observed adverse reactions to codeine include light-headedness, drowsiness, sedation, nausea and vomiting. These effects seem to be more prominent in ambulatory than in nonambulatory patients. Some of these adverse reactions may be alleviated if the patient lies down. Other adverse reactions include constipation, dysphoria, and pruritus.

The most frequently observed reactions to aspirin include headache, vertigo, ringing in the ears, mental confusion, tinnitus, sweating, thirst, nausea, and vomiting. Occasional patients experience gastric irritation and bleeding with aspirin. Some patients are unable to take salicylates without developing nausea and vomiting. Hypersensitivity may be manifested as a skin rash or even an anaphylactic reaction. With these exceptions, most of the side effects occur after repeated administration of large doses.

**DOSE AND ADMINISTRATION:** Dosage should be adjusted according to the severity of the pain and the response of the patient. It may occasionally be necessary to exceed the usual dosage recommended below in cases of more severe pain in those patients who have become tolerant to the analgesic effect of narcotics. Empirin with Codeine is given orally. The adult dose for Empirin with Codeine No. 2 and No. 3 is one or two tablets every four hours as required. The usual adult dose for Empirin with Codeine No. 4 is one tablet every four hours as required.

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#### References:

Rosenthal, P. and Liebman, W.M.: Comparative study of stool examinations, duodenal aspiration, and pediatric Enterio-Test for giardiasis in children. *J. PEDIAT.* 96: 278 (Feb.) 1980.

Thomas, G. E., et al: Use of the Enterio-Test duodenal capsule in the diagnosis of giardiasis. *South Afr. Med J.* 48: 2219, 1974.

Lopez, M. E., et al: Infeccion duodeno-yeyunal en el niño con desnutricion energetico-proteínica. *Rev. Med. Hosp. Nat. Niños* 13: 53, 1978.

Gilman, R. H: Identification of gall typhoid carriers by a string bladder device. *The Lancet*: April 14, p. 795, 1979.



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# Primary Care in Local Health Departments: The Practitioners' View

Arnold D. Kaluzny, Ph.D., Wayne Harrison, Ph.D.,  
Stephen C. Farrow, M.D., and Paul S. Jellinek, M.P.H.

IMPROVED access to primary health care services has been an important concern in North Carolina since the late 1960s. Despite major efforts by both private and public providers across the state to reduce barriers, it was clear by the mid-1970s that substantial unmet need remained. For example, in 1976 North Carolina ranked 38th in the nation with respect to its physician/population ratio, and over half the counties in the state were federally designated as medically underserved.<sup>1</sup> Moreover, health status data indicate that during the mid-1970s North Carolina suffered from the fourth highest infant mortality rate in the nation<sup>2</sup> and ranked 44th with respect to life expectancy at birth.<sup>3</sup>

In 1977, in response to these conditions, the North Carolina General Assembly provided \$2.75 million (for the 1977-1979 biennium; subsequently extended) to the Division of Health Services (DHS) for the implementation of a state primary care program in selected local health departments. Program standards and guidelines were developed by DHS during 1977, and by May 1978 the program had been im-

plemented in 20 of the state's 81 local health departments.

The program had substantial political implications. Even before implementation had been completed, the North Carolina Medical Society voiced strong objections. In February 1978 the medical society issued a position paper, approved by the society's executive council, which severely criticized the cost, program design, and planned use of nurse practitioners. It was argued that health departments were incapable of providing cost-effective primary care services; that health departments, in limiting the provision of services to normal operating hours, were not able to offer "true" primary care, which, by definition, is "continuous care"; and that existing program standards and guidelines for the supervision of physician extenders were "obscure and confusing . . . and could encourage such individuals to perform (medical) acts in violation of patient safety and state statutes."

The position paper stimulated considerable debate over the program and culminated in the formation of a special Governor's Primary Care Task Force composed of both public and private sector representatives to study the program and make recommendations for its future. The final report was completed after nine months of exhaustive analysis and discussion and was submitted to the medical society at its May 1979 annual meeting at Pinehurst. While the task force

left the original program standards intact, significant changes in the guidelines were recommended, with special emphasis on promoting involvement of the private medical community in local decisions to apply for state primary care program funds. Despite these substantial and rather conciliatory revisions, made largely through the active efforts of medical society members on the task force, the delegates at the 1979 meeting voted merely to "file" rather than endorse the report.

Why has acceptance of the North Carolina primary care program by the medical society proven so elusive? The question is important not only in attempting to reconcile differences over this particular program but in understanding some of the dynamics of the relationship between the public and private health sectors in North Carolina. The objections to the program cited in the medical society's 1978 position paper provide a partial answer. Nevertheless, the fervor of the dialogue and the failure to endorse the recommendation of the task force suggest that the program has touched deeper concerns of the private medical community. These concerns transcend technical considerations of cost, program design, and manpower supervision.

In order to assess the basis of the resistance to the program, a survey of the opinions of North Carolina primary care physicians was conducted. This survey focused on ac-

From the Department of Health Administration  
School of Public Health  
University of North Carolina  
Chapel Hill, N.C. 27514

This work was supported in part by grant number HS 01971 to the Health Services Research Center of the University of North Carolina, Chapel Hill, from the National Center for Health Services Research, Department of Health, Education and Welfare.

tivities of local health departments and beliefs about the state primary care program.

## METHOD

### Sample

A sample of 1,382 primary care physicians was drawn from the medical society rolls of practicing physicians. Selection was limited to physicians practicing in counties with funded programs and matched counties without primary care programs but similar in socio-demographic characteristics. Primary care physicians included those in family practice, internal medicine, pediatrics and obstetrics and gynecology. Of the 1,382 questionnaires mailed, 557 were returned, of which 538 (38.9%) were complete and subsequently analyzed.

A postcard and telephone re-survey of 10% of the original sample ( $N=138$ ) revealed no differences between physicians completing and not completing the questionnaire. Physicians participating in the re-survey were asked whether they returned the initial questionnaire, their age, extent of cooperation with the local health department in accepting patients referred by the department, their feelings about the appropriateness of the health department providing ambulatory care and the extent to which they agree that the provision of primary care services by local health departments will be significant in improving and expanding health services in the state.

### Questionnaire

In the initial survey physicians were asked several demographic questions, including age, county of practice, place of training, length of residency, board certification status, and length of time practicing in the community. In addition, 11 questions focused on the nature and extent of the physician's cooperation with the local hospital(s) and health department.

Fifteen questions concerned the physician's familiarity with local health department activities, in particular, assessing awareness of, and involvement with, local implementation of the primary care

program. Further questions concerned the physician's attitude toward the state primary care program. Respondents were asked to indicate the extent of their agreement with 26 wide-ranging belief statements regarding the program.

A final set of 47 questions focused on the activities of health departments. Physicians were asked to indicate the appropriateness of each activity for their local health departments.

## RESULTS

Analysis revealed considerable confusion about the program. Although most respondents correctly stated that their local health department either was or was not implementing the primary care program, a large percentage (42%) were mistaken. Specifically, 63% (143/227) of the physicians in counties implementing the primary care program were aware that their counties had implemented the program; 47% (118/253) of the physicians in counties not implementing the program believed that their counties had implemented the program.

### Attitudes Toward the Program and Health Department Activities

Physicians were asked a number of questions regarding the primary care program and health department activities. Responses to each of these two sets of questions were submitted to a factor analysis in

**Table I**  
**Primary Care Program Factor**

Factor Loading*	Questionnaire Item**
.84	The program will improve and expand services.
-.83	The program is a bad idea.
.82	It is appropriate for DHS to fund this program.
.79	The program will increase the appropriateness of health department activities.
.76	Even though the program activities may not be primary care they are needed by the community.
.75	The program will improve the quality of local health department activity.
.72	The program will provide care to persons who otherwise might never get such care.
.72	The program will make services more accessible to the population.

\*Factor loadings are correlations of the questionnaire item responses with the constructed index (factor), and serve to define the index.

\*\*Response categories for questions were—strongly disagree, disagree, uncertain, agree and strongly agree

**Table II**  
**Personal Health Care Services Factor**

Factor Loading*	Questionnaire Item**
.77	Provide ambulatory health care for medically underserved.
.75	Provide ambulatory health care to children medically underserved.
.72	Provide comprehensive pre- and postnatal care for medically underserved.
.68	Provide ambulatory health care to children under Medicaid.
.68	Provide preventive care for illness to mother and children.
.67	Screening and referral services for diseases that are leading causes of death.
.65	Provide well-child services.

\*Factor loadings are correlations of the questionnaire item responses with the constructed index (factor), and serve to define the index.

\*\*Response categories involved a 7-point scale ranging from highly inappropriate to highly appropriate.

order to reduce them to interpretable indices. A single index (factor) adequately characterized responses to questions about the primary care program and is presented in Table I. Based on these questions scores were calculated for each physician to determine their degree of support toward the primary care program.

Two indices were necessary to characterize physician responses to questions about basic health department activities; personal health care services and environmental services (see Tables II and III). Scores were calculated for each factor reflecting the perceived appropriateness of personal health services and environmental services provided by local health departments.

### Relationships Between Physician Characteristics and Attitudes

Analysis revealed some association between physician characteristics and their attitudes toward the primary care program and other activities of local health departments. Physician characteristics used in the analysis were age, board certification status, extent of cooperation with local health departments, residence in a county implementing the program, and awareness of local implementation. Physicians were characterized dichotomously on each of these attributes. In addition, the number of changes in the state's program recommended by the phy-

**Table III**  
**Environmental Services Factor**

Factor Loading*	Questionnaire Item**
.84	Water purification
.84	Sewage and waste disposal
.81	Fluoridation
.79	Milk plant inspection
.76	Poisonous pesticides
.76	Control environmental conditions that spread disease
.75	Septic tanks
.71	Monitoring of air quality

\*Factor loadings are correlations of the questionnaire item responses with the constructed index (factor), and serve to define the index.

\*\*Response categories involved a 7-point scale ranging from highly inappropriate to highly appropriate.

sician were analyzed by physician characteristics. Analysis revealed the following significant relationships ( $p < .05$ ).

1. Younger physicians (mean-split on age):
  - \* suggested more changes in the primary care program, and
  - \* regarded environmental services as less appropriate activities.
2. Physicians who cooperate more extensively with their health departments:
  - \* suggested more changes in the program,
  - \* attached more value to the program, and
  - \* regarded provision of personal health care services as more appropriate.
3. Physicians in counties implementing the program:
  - \* cooperate more extensively with their health departments.
4. Physicians who were aware of whether their health department had or had not implemented the primary care program:
  - \* suggested more changes in the program,
  - \* regarded provision of personal health care services as more appropriate, and
  - \* regarded environmental services as less appropriate activities.

### *Unsolicited Comments by Physicians*

In addition to replying to the questionnaire items, many physicians responded to the opportunity to comment about the primary care program.

#### *Primary Care*

In their comments, the most frequently mentioned complaints were that:

- \* services would be provided by nurse practitioners, and such services would be inferior to those provided by physicians,
- \* the program would duplicate existing and adequate services, and would lead to fragmentation of care,
- \* cost of services would be higher, and
- \* the program represented a further incursion by the state into the delivery of health care.

The most frequently mentioned recommendations were that:

- \* 24-hour care be provided,
- \* services be limited to those who could not pay, and
- \* discussion with local physicians prior to program implementation be increased.

### **DISCUSSION**

The finding that almost half of the responding physicians were mistaken in believing that their local health department was or was not implementing a primary care program indicates a lack of contact and involvement with these agencies. A private physician not aware of the program's status within his own community cannot be expected to render an informed judgment concerning a statewide program at the annual meeting of the medical society's House of Delegates. Lacking specific knowledge of the program within his own community, the private physician is likely to rely on ideological preconceptions and consequently oppose a program which, had he had more adequate information, may have been supported.

The survey results also suggest some confusion surrounding the definition of primary care. Many traditional health department activities have had "primary care" elements and it seems likely that many of the activities funded by this new program and labeled as primary care have previously been performed through a variety of categorical programs such as maternal and child health and chronic disease control. Consequently, some confusion among physicians regarding the nature of the program was perhaps inevitable. Nevertheless, the labeling as "primary care" provided an opportunity to raise substantive questions regarding the role of public health agencies in areas traditionally considered to be within the purview of private practice.<sup>4</sup> This discussion centered on substantive issues of continuity and quality of care but had an underlying current involving the encroachment of the public sector into the private practice of medicine.

In reviewing the apparent determinants of physicians' attitudes toward the program it is important to note that previous cooperation with the local health department was positively related to their attitude toward the primary care program. This suggests that local health departments as well as local practitioners must take the initiative to create a more cooperative environment in the total provision of care at the local level. While the dispute continues, an important avenue for resolution appears to be discussion among public health personnel and physicians at the community level. The findings of this study suggest that information-sharing at the local level is important in meeting the primary health care needs of the people of North Carolina.

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# A Sampling of Current Tuberculosis Management In Western North Carolina

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**ABSTRACT** The final 100 consecutive female admissions to the Western North Carolina Hospital at Black Mountain for treatment of tuberculosis were studied, with particular reference to their experience before admission as well as to those situations encountered during admission. This analysis reveals that some serious deficiencies exist today among some physicians and community hospitals in western North Carolina as to recognition and clinical management of tuberculosis. It also reminds us of the protean nature of this disease and the obstacles met in efforts to cope with it. An appeal is made to all physicians in North Carolina to be more aware of tuberculosis and of how to deal with it, an important disease which still infects about 14% of the state's population.

THE Western North Carolina Hospital in Black Mountain, a state-operated tuberculosis sanatorium since 1937, closed its doors on March 31, 1980, after serving its last nine years as a specialty hospital caring for patients with all pulmonary diseases and with terminal cancer of all kinds. Closing the hospital was in keeping with the state's policy of shifting the care of tuberculosis patients from state-operated sanatoriums to local physicians and local community hospitals, as is

now done in most of the United States. It was hoped that by the time the hospital closed, local community health facilities would be prepared to take over the management of tuberculosis whenever hospitalization became necessary. At this writing, such preparation, though progressing, is still incomplete.

For many years, 29 of the 38 westernmost county health departments in North Carolina maintained regular tuberculosis clinics staffed by public health nurses and conducted by staff physicians from the Western North Carolina Hospital. These county health departments and their chest clinics will continue to operate and will be the keystone of any effective tuberculosis control program. But at present it is uncertain when local physicians and their community hospitals will be ready for their new role in managing active tuberculosis. To gain some idea of their present readiness, a sampling was made of recent tuberculosis admissions to the Western North Carolina Hospital; the sampling consisted of all of the final 100 consecutive female admissions to my floor in this hospital. These patients were studied with particular interest in their experience *preceding* admission. By looking at these 100 admissions, which involved 80 separate patients (some had more than one admission), we may have an adequate sampling of present-day tuberculosis experience, although all patients were women. Admittedly, the number is too small to permit proper analysis but the view is revealing.

Of the 80 patients in this sampling, 67 were admitted once, six

were admitted twice, three were admitted three times, and two more than three times for a total of 100 admissions (if the last two patients are counted as each having three admissions). Active pulmonary disease due to *M. tuberculosis* was found in 61 patients; active extrapulmonary disease due to *M. tuberculosis* was found in 11 patients (including one patient with disease in two organ systems and two patients with disease in three organ systems); active pulmonary disease due to *M. intracellulare* was found in seven patients, and active pulmonary disease due to *M. kansasii* in one patient.

Twenty-two admissions were for the purpose of determining whether the patients had active tuberculosis. By the time of discharge, active tuberculous disease (*new* cases) was confirmed in eight patients and ruled out in six; re-activation of old *known* tuberculosis was confirmed in one patient and ruled out in seven, two of whom were found to have carcinoma of the lung.

Some of the factors leading to these 100 admissions are:

1. Unsuspected active cavity tuberculosis discovered on *routine* chest x-ray films (pre-operative, emergency room, etc.) in three patients.

2. Active tuberculosis contracted from *unsuspected home* contacts in five patients.

3. Active tuberculosis contracted from *unsuspected nursing home* or *rest home* contacts in six patients.

4. Within the last year, four patients with active tuberculosis were immigrants (two Koreans, one Japanese, one Cambodian). Tubercu-

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losis is still prevalent in Asian countries, but refugees are carefully screened before they enter the United States and those with disease have been quickly identified. Therefore, Asian refugees should pose no great public health problem to us; the greatest public health hazard today comes from the individual with *unsuspected* tuberculosis—the person with active disease unknown to himself or to others.

5. Active tuberculous disease missed in five patients because the patients were *aged* and it was assumed that chronic obstructive pulmonary disease, arteriosclerotic heart disease, pulmonary fibrosis, etc., could account for symptoms.

6. In these 80 women patients, the diagnosis of active tuberculosis was delayed for an average of 12 months in nine patients and for an average of 14 years in two others. It was missed because it was not thought of or was not seriously considered. Missing a major diagnosis such as tuberculosis in 11 of 80 patients for that many years is difficult to accept. Some physicians have been most aware of the problem of detecting tuberculosis, while some others have been considerably less so. One watched while unilateral, massive pleural effusion developed in one of his patients over a period of two years; she became moribund as 60 liters of pleural fluid were aspirated from her chest over a 10-week period. Eventually, a fluid specimen was sent to a commercial laboratory, which reported acid-fast bacilli (AFB) on direct smear. The next day the patient was transferred to us, but she had developed tuberculous peritonitis as well. Although critically ill for four weeks thereafter, she responded dramatically to chemotherapy and is well today; she is now half-way through her chemotherapy course.

A 61-year-old woman had been in and out of hospitals in two adjoining states for many years with rather severe diarrhea, anemia and malnutrition, for which she had at one time received 13 electroconvulsive treatments. At no time was she given a PPD skin test, nor was any chest x-ray study made during the 16 years before her admission to the

Western North Carolina Hospital, even though her last chest film, made in 1962, had been read as showing "old healed tuberculosis." The next study in 1978 was requested only after a full year of progressively increasing productive cough, malaise, anorexia and weight loss beginning with a "cold that would not go away." After her admission we demonstrated, through appropriate blood and stool tests and a jejunal biopsy, that she did indeed have celiac (non-tropical) sprue; that disease entity should not have blinded her physicians to the equally important fact that her left upper lobe had become almost destroyed by tuberculosis with multiple cavities (the largest 5 cm in diameter), sputa strongly positive for AFB, and full-blown pulmonary symptoms for many months. Minimal suspicion could have averted many years of invalidism and unnecessary exposure of others to tuberculosis, for as soon as this patient was begun on appropriate anti-tuberculosis chemotherapy, which she tolerated very well, and was placed on a gluten-free, lactose-free diet, she made a dramatic recovery.

7. Of the 80 patients in this series, active pulmonary tuberculosis lesions were clearly visible but unrecognized on earlier, outside chest x-ray films in nine patients.

8. Where known recent PPD conversion had not been followed by chemotherapy, clinical disease developed in two patients.

9. Failure to perform interval follow-up study or therapy on persons suspected initially of having active tuberculosis resulted in far-advanced active disease in eight patients.

10. Mistreatment of known tuberculosis resulted in advanced active disease in two patients. This category did not include poorly complying patients such as alcoholics, but only those whose physicians misdirected their chemotherapeutic regimen. For example, a 69-year-old woman with a pronounced Pott's gibbus for 25 years, Addison's disease for seven years, and urinary tract tuberculosis for five years was given isoniazid alone

in 1974. When urine cultures in 1977 yielded a growth of AFB totally resistant to isoniazid and sensitive to streptomycin, rifampin and ethambutol, the physician continued her on isoniazid. Urine cultures two years later again grew AFB resistant to isoniazid and sensitive to the other drugs. When the patient's physician then again ordered the county health department nurse to continue supplying isoniazid alone to the patient, the nurse called for help from the health department, which made arrangements for the patient's admission to the Western North Carolina Hospital for assessment and management.

11. Among my 80 patients, skin testing with PPD 5TU was negative (although positive with PPD 250TU) in two patients with active disease caused by *M. tuberculosis*. PPD 5TU skin tests were negative or mildly reactive in all seven *M. intracellulare* infections in this series.

The majority of the patients in this series presented complex and serious medical problems requiring not merely hospitalization but a certain degree of expertise and individualization of tuberculosis management obviously not earlier available to the patients:

1. Intolerance to anti-tuberculosis drugs was a problem in nine patients. One patient with far-advanced bilateral disease developed severe allergies to isoniazid, streptomycin, rifampin and ethambutol. She had generalized exfoliative dermatitis more than once, since she was allergic to many other drugs as well. Ultimately her disease was controlled by a combination of capriomycin, pyrazinamide, ethionamide and PAS, which she did tolerate. Two patients were intolerant of isoniazid and rifampin, one of isoniazid and streptomycin, one of rifampin and streptomycin, three of isoniazid alone, and one of rifampin alone.

2. Seventeen patients were particularly vulnerable to tuberculosis and their management made especially difficult by other medical problems:

alcoholism with marked liver damage;  
arteriosclerotic heart disease,



with congestive heart failure;  
 extensive burns;  
 carcinomas of lungs, breasts  
 and colon;  
 severe chronic obstructive  
 lung disease;  
 diabetes mellitus;  
 gastric resection (sub-total);  
 resection of 3 meters of small  
 bowel;  
 multiple laparotomies, with  
 partial bowel obstruction;  
 pulmonary embolism and in-  
 farction;  
 hip fracture and subsequent  
 decubiti (incurred elsewhere);  
 senile dementia;  
 non-tropical sprue; and  
 marked debility and weight  
 loss (from whatever cause).

3. Major surgery for the treatment  
 of tuberculosis was required for  
 four patients, all with excellent re-  
 sults:

lobectomy for atypical tubercu-  
 losis (*M. intracellulare*) in two  
 patients; lobectomy for *M. tu-  
 berculosis* in one patient (to rule  
 out malignancy); and pneumo-  
 nectomy and radical thoraco-  
 plasty for *M. tuberculosis* infec-  
 tion in one patient (who had had  
 a lobectomy and partial thoraco-  
 plasty elsewhere and had devel-  
 oped a bronchopleural fistula and  
 tuberculous empyema).

What does this information tell  
 us? Admittedly the small sampling  
 of patients in this series can have  
 little statistical significance. But the  
 observations do suggest the neces-

sity of improving our approach to  
 the tuberculous patient.

It is clear that not every physi-  
 cian in western North Carolina  
 recognizes tuberculosis in his prac-  
 tice or can manage it competently  
 when it is recognized. Some physi-  
 cians are indeed well prepared, and  
 their competence is reassuring. For  
 others, we must provide appropri-  
 ate education about tuberculosis in  
 community hospital staff meetings  
 and county medical societies, for  
 already we are seeing some tragic  
 consequences of poor management  
 of patients with tuberculosis. We  
 are not worried by the physician  
 who does not know all that he might  
 know about tuberculosis but who  
 will seek help whenever he needs it;  
 we are alarmed by the physician  
 who does not know and who knows  
 not that he knows not.

It is also clear that few commu-  
 nity hospitals in western North  
 Carolina are prepared to admit a tu-  
 berculous patient who requires  
 hospitalization, even as an emer-  
 gency. Many hospital Infection  
 Control Committees still do not  
 have realistic plans for handling  
 patients with tuberculosis. The  
 strict isolation often imposed on  
 such a patient with cap, mask,  
 gown, gloves, sterilization of fo-  
 mites, etc., attests to a lack of un-  
 derstanding and planning. Fortu-  
 nately, it is not necessary for every  
 community hospital to bear the full  
 load of tuberculous-patient respon-  
 sibility in its own community, for

the Division of Health Services  
 of the Department of Human Re-  
 sources has undertaken to contract  
 certain key community hospitals —  
 perhaps three within the western-  
 most 38 counties of North Carolina  
 — for admitting tuberculous pa-  
 tients. Such hospitals must meet  
 certain staff and building require-  
 ments (such as air exhausted di-  
 rectly out-of-doors from rooms ac-  
 commodating infectious patients) to  
 qualify. But even when these hos-  
 pitals have been chosen and their  
 contracts with the state have be-  
 come operative, it is still incumbent  
 upon *all* community hospitals to  
 have some kind of practical, realis-  
 tic approach to tuberculosis, since  
 tuberculosis can be expected to be  
 around for decades to come.

About 14% of the population of  
 North Carolina reacts positively to  
 tuberculin skin tests; that is, about  
 14% of its people are or have been  
 infected with *Mycobacterium tu-  
 berculosis*. This is twice the average  
 for the entire nation. Unless the  
 control of tuberculosis is intel-  
 ligently and unremittingly pursued,  
 we may well see an increase in the  
 percentage of drug-resistant tuber-  
 cle bacilli above the present na-  
 tional primary resistance rate of 4%  
 (some ThirdWorld countries al-  
 ready have primary drug-resistance  
 rates approaching 40%). Tubercu-  
 losis is still too serious and too com-  
 plex and too protean a disease to  
 permit any relaxation in our efforts  
 to conquer it.

#### TUBERCULOSIS OF THE SPINE

The vertebrae of the spine when contracted into a hump behind from disease, for the most  
 part cannot be remedied, more especially when the gibbosity is above the attachment of the  
 diaphragm to the spine. Certain of those below the diaphragm are carried off by varices in the  
 legs, more especially by such as occur in the vein at the ham: and in those cases where the  
 gibbosities are removed, the varices take place also in the groin: and some have been carried  
 off by a dysentery when it becomes chronic. And when the gibbosity occurs in youth before  
 the body has attained its full growth, in these cases the body does not usually grow along the  
 spine, but the legs and the arms are fully developed, whilst the parts (about the back) are  
 arrested in their development. And in those cases where the gibbosity is above the dia-  
 phragm, the ribs do not usually expand properly in width, but forward, and the chest  
 becomes sharp-pointed and not broad, and they become affected with difficulty of breathing  
 and hoarseness: for the cavities which inspire and expire the breath do not attain their proper  
 capacity. — Hippocrates. Of the Epidemics.

# Toxic Shock Syndrome: Report of Five Cases

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**ABSTRACT** Toxic shock syndrome (TSS) was first described in 1978. More recently the Center for Disease Control (CDC) has reported TSS in young menstruating women. The syndrome is characterized by the abrupt onset of watery diarrhea, diffuse abdominal tenderness, nausea, vomiting and high fever. TSS rapidly progresses to severe hemodynamic shock and is accompanied by a diffuse erythematous, often maculopapular rash that desquamates especially on the palms and soles 1-2 weeks after the onset of illness. Five patients fulfilling the CDC's criteria for TSS have been recognized by the author over the past three years and are reported here. As in the CDC cases, these patients were young women who were menstruating and using tampons at the time they became ill. Vaginal cultures from two of the patients grew *Staphylococcus aureus*. These cases support the epidemiologic hypothesis that tampons and toxin-producing staphylococci may be important factors in the pathogenesis of this serious multisystem disorder.

THE Center for Disease Control (CDC) has brought to the attention of physicians and the general public a recently described illness, the toxic shock syndrome (TSS). With the cooperation of state health departments, the CDC has been collecting and studying reported cases. Epidemiologic investiga-

tions have shown that TSS occurs mainly in menstruating women and is strongly linked to the use of tampons. The CDC's studies have received much attention in the news media. It is important that menstruating women and their physicians be familiar with this syndrome, recognize its presenting signs and symptoms, and have knowledge of its possible pathogenesis and treatment.

TSS was first described in 1978 by Todd et al in young children with nonbacteremic and localized staphylococcal infections.<sup>1</sup> It is an acute illness characterized by the onset of high fevers (104-105°F), nausea, vomiting, cramping abdominal pain, profuse watery diarrhea, and occasional sore throat, myalgias, headache and conjunctivitis. Over a few days the disease progresses to shock. A diffuse macular rash is a striking concomitant finding. In the past three years, five patients with TSS have been recognized in Greensboro, North Carolina, and are reported to describe the common features and complications of this entity.

## CASE REPORTS

1. In 1977 a 31-year-old patient developed nausea and vomiting, cramping abdominal pains, and profuse watery diarrhea two days after the onset of menses for which tampons were used. On admission to the hospital T was 106°F and BP was 60 mm Hg systolic. Physical exam was marked by delirium, diffuse erythroderma, abdominal guarding, and decreased bowel sounds. Pelvic examination re-

vealed a purulent tampon in place, culture of which yielded growth of *S. aureus*. There was no localized pelvic tenderness. Cultures of cerebrospinal fluid and aspirate from culdocentesis were sterile, as were cultures of urine and blood. Stool culture grew no pathogens. Broad-spectrum antibiotics including gentamicin, chloramphenicol, penicillin and nafcillin were given as were vasopressors. Fluid volume was replaced appropriately. The illness was complicated by respiratory failure secondary to adult respiratory distress syndrome (ARDS) and exfoliation of the rash on the palms and soles. The patient recovered over three weeks of hospitalization.

2. In 1978 a 26-year-old patient developed watery diarrhea, nausea, vomiting, fever and chills two days after the onset of her menses. Tampons were used. On admission T was 104°F and BP 90/40 mm Hg. A diffuse erythematous rash, bilateral pulmonary rales and abdominal tenderness with decreased bowel sounds were present. Pelvic examination was normal. Chest x-ray revealed pulmonary edema. A normal pulmonary capillary wedge pressure confirmed a non-cardiogenic cause. Management included fluid replacement and broad spectrum antibiotic administration. A gastrointestinal focus of infection was suspected but gallbladder, upper GI and barium enema x-rays were normal. She developed an exfoliative rash after discharge. She

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was readmitted a month later, again at the time of her menses with a similar but milder illness that lasted only three days.

3. In February 1980 an 18-year-old woman developed diarrhea, cramping abdominal pains, nausea and vomiting four days after onset of menses for which tampons were used. On admission, T was 105.7°F and BP 70/40. Examination revealed mild abdominal tenderness and a diffuse maculopapular rash. Chest x-ray was normal. Cultures of blood, stool and urine showed no pathogens. The initial diagnostic impression was a viral syndrome. Over four days, her condition improved, conservative therapeutic measures — replacement of fluid losses and antipyretics — being employed. Menses ceased the second hospital day. About one week after onset of the illness, the rash desquamated on the palms and soles.
4. In May 1980 a 26-year-old woman developed explosive watery diarrhea followed by fever, severe myalgias, arthralgias, and sore throat. These symptoms occurred on the third day of her menses, for which Rely® tampons were used. Vital signs revealed a T of 104°F and systolic BP 70 mm Hg. The lips were fissured and the pharynx was injected but without exudate. There was bilateral non-purulent conjunctivitis. An erythematous rash was present on the trunk and upper extremities. Cultures of blood, stool, urine and spinal fluid yielded no pathogens. Pelvic examination was normal. She was treated with chloramphenicol and BP was supported by fluid replacement. The hospital course was complicated by transient acute renal failure requiring hemodialysis, severe pancreatitis, non-cardiogenic pulmonary edema, and prolonged ileus. Over a three-week hospitalization the patient slowly recovered. Two weeks after admission the rash progressed to local exfoliation.
5. In September 1980 a 32-year-old woman developed lower ab-

dominal cramps, nausea, vomiting and fever (101-102°F) three days after beginning menses. She used Rely® tampons. On the third day of her illness she became confused and febrile to 105°F; BP was 75/30 mm Hg. A diffuse erythematous rash, generalized muscle tenderness, and mild abdominal rebound were noted. Pelvic examination showed a tampon in place, and vaginal culture grew *S. aureus*. Cultures of spinal fluid, blood, stool and urine revealed no pathogens. The patient was given nafcillin and intravenous fluids and the symptoms resolved over one week. Ten days after the onset of illness the rash desquamated on the palms and soles.

## DISCUSSION

These five patients fit the characteristics of TSS as described by the Center for Disease Control. The usual symptoms and findings of hectic fever, shock, an erythematous rash, nausea and vomiting, cramping abdominal pain, myalgias, and watery diarrhea were present in all five of our patients. Laboratory findings of leucocytosis with left shift, elevated ESR, azotemia, pancreatitis, elevated creatine kinase, abnormal liver function tests, pyuria and hypoxemia were also present to a varying extent. Occasional complications of TSS include non-cardiogenic pulmonary edema which three of our five patients demonstrated. Rarely, myocarditis and digital gangrene have been described but were not observed in this series. The CDC has established five criteria for the diagnosis of the syndrome: 1. Fever of  $\geq 102^\circ\text{F}$ . 2. Erythematous rash progressing to desquamation, particularly of the hands and feet. 3. Hypotension:  $\leq$  BP 90 mm Hg for adults or  $\leq$  5th% by age for children  $\leq$  16 y.o. or orthostatic syncope. 4. Involvement of at least three organ systems (GI, renal, cardiac, hepatic, hematologic and CNS). 5. No evidence of Kawasaki's disease, acute rheumatic fever, Rocky Mountain spotted

fever, meningococcal infection, leptospirosis or bacteremia.<sup>2</sup>

In the past year well over 300 cases of TSS have been reported to the CDC, more than 95% of whom were young women with a mean age of about 25 years.<sup>3</sup> More than 95% of these patients had the onset of illness during menstrual periods, and there had been a very high use of tampons among these women. The true incidence of the syndrome is not precisely known, and estimates will obviously change as its recognition increases. The Wisconsin State Department of Health has had a particular interest in TSS over the past year and has estimated the incidence at 3-15 cases/100,000 menstruating females/year.<sup>4</sup> Association with the use of tampons has been demonstrated in case control studies performed by the CDC and by the Wisconsin State Department of Health.<sup>4,5</sup> Approximately 98% of the women with TSS have used tampons with their menses vs. an 85% use of tampons in menstruating women without TSS, a statistically significant difference. In September 1980 the CDC reported a case control study of the brands of tampons used and their relationship to TSS,<sup>2</sup> which disclosed a statistically significant association with the use of Rely® tampons. Seventy-one percent of patients with TSS used Rely® vs. only 26% in the control group ( $p$  0.005). Two of my five patients (cases 4 and 5) used Rely® tampons. The relative risk of developing TSS with use of Rely® tampons was 7.9 times the risk with the use of other brands. Because of this impressive epidemiologic evidence, the Procter and Gamble Company ceased distribution of Rely® tampons on September 22, 1980. Because the incidence of the disease is felt to be relatively low, it has not been recommended that all tampons be withdrawn from the market. It is best that each woman make an informed decision about the use of tampons. Clearly, tampons should be promptly removed and the advice of a physician sought if the signs and symptoms of TSS occur.

The exact role of tampons in the pathogenesis of TSS is not under-

stood, but they appear to serve at least as a co-factor. In the cases reported to the CDC where appropriate vaginal cultures have been taken, *Staphylococcal aureus* has been recovered 98% of the time. Two of our patients had such cultures, both of which yielded *S. aureus*. Recently the CDC found only 7% vaginal carrier rate of *S. aureus* in healthy menstruating females who used tampons.<sup>2</sup> The staphylococcus is therefore the leading suspect in the pathogenesis of TSS. It is postulated that a toxin or toxins elaborated by the organism gain entry to the circulation and attack systemically.

Treatment of TSS is mainly supportive — intravascular volume replacement and appropriate management of more severe complications such as adult respiratory distress syndrome and acute renal failure. It has been suggested by the CDC that an anti-staphylococcal penicillin be used for seven to 10 days, based on the observation that recurrences were reduced in a limited number of women so treated. Once a woman has contracted TSS, tampon use should be discontinued. Some have suggested that once staphylococci have been eradicated from the vagina it can be reinstituted, but this is debatable. The CDC has determined that recurrence rates have been as high as 40% in women who have had TSS and continue to use tampons.<sup>4</sup>

Table I summarizes the clinical and laboratory data in our cases and demonstrates several interesting findings. All patients had moderate thrombocytopenia with onset. Two of three patients in whom serum creatine kinase (CK) was measured had elevated values, suggesting rhabdomyolysis. MB fractions of CK were not elevated. Two patients had mild to severe renal insufficiency. Three developed acute respiratory distress syn-

TABLE I  
SUMMARY OF CASES OF TOXIC SHOCK SYNDROME

Findings	Case 1	Case 2	Case 3	Case 4	Case 5
Rash/ Desquamation	+/+	+/+	+/+	+/+	+/+
Diarrhea/ Nausea and Vomiting	+/+	+/+	+/+	+/+	+/+
BP	60/0	90/40	70/40	70/0	75/35
White Blood Count (Thousands/mm <sup>3</sup> )	8.3	9.1	15.2	26.1	10.7
Differential WBC	21PMN 62 stabs	45PMN 46 stabs	8 PMN 68 bands 9 metas	28PMN 52 stabs	74PMN 19 stabs
Platelets (Thousands/mm <sup>3</sup> )	80	85	on smear	170	150
Creatine Kinase (Normal 21 to 215 IU)	256	ND*	ND	652	160
BUN (mg/dl)/ creatinine (mg/dl)	57/2.5	15/1.3	53/2.0	69/8.9	18/1.1
Chest X-ray	ARDS**	ARDS	WNL	ARDS	WNL
Serum Amylase (Normal 5 to 85 IU)	177	70	ND	640	15
Serum Calcium (mg/dl)	6.8	6.5	7.3	5.9	7.6
Pyuria (No. WBC/hpf)	> 20	> 15	> 50	> 50	> 50
Menses	+	+	+	+	+
Use of tampons	+	+	+	+	+
Vaginal culture	<i>S. aureus</i>	ND	ND	ND	<i>S. aureus</i>

\*ND — Not done

\*\*ARDS — Adult respiratory distress syndrome

drome manifested by non-cardiogenic pulmonary edema. Two patients had increased serum amylase values, suggesting pancreatitis. All five had transient depressions in their serum calcium levels not attributable to hypoalbuminemia. The pathogenesis of the hypocalcemia is unknown although in some patients it could be related to pancreatitis. Sterile pyuria was initially present in all of our patients and suggests transient tubulo-interstitial inflammation. The multiple abnormalities found in our patients strongly support the notion that a circulating toxin is responsible for the widespread organ involvement. Search for a toxin or toxins is being actively pursued. Some investigators have

described pyrogenic and epidermal exotoxins from staphylococci isolated from cases of TSS.<sup>1,6</sup> No toxins, however, have been discovered that can account for all the multisystem abnormalities.<sup>7</sup>

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# The Physician and Spouse

## II. Happiness, Marriage, and Family Life

W. P. Wilson, M.D.,\* and D. B. Larson, M.D.\*\*

**ABSTRACT** Happiness is primarily derived from relationships with others. Of special importance are relationships with parents, spouses and children. Growing up in a happy home sets the stage for the creation of a happy relationship with a spouse and a happy relationship with a spouse contributes to happy relationships with children. People who were loved as children learn to love as adults. Loving spouses are able to assume complementary roles that allow them to establish a loving, orderly environment where discipline is fair and just and where children learn to live by a belief system that has real value. In this environment, children differentiate to become persons of worth.

### THE PURSUIT OF HAPPINESS

**M**ANY self-proclaimed prophets of happiness urge us to embrace their ways. Some bestselling authors tell us that happiness is self-love, positive thinking, or choice. Modern social planners insist that material things — cars, home, vacation trips and money in the bank — bring happiness. Intellectuals would make us believe that we will be happy if we have enough education. Advertisers try to convince us that happiness is the type of beer we drink, the laxative we use, or the kind of car we drive. Finally, our culture suggests that vocational success is the one important ingredient that will bring happiness.

Some years ago one of us (WPW) wrote an article called, "Alexander's (The Great) Syndrome."<sup>1</sup> This article related the story of a physician friend who, in his 40s, had education, a loving wife, beautiful children, friends, acclaim, academic rank and security; yet he saw life as a "drag." He had what the existentialists would call a "despair of meaning." *The British Medical Journal* made this article the subject of an editorial, and as a result letters were received from physicians all over the world who wanted someone to know that they too had suffered this same despair.

It would seem then that if there is a formula for happiness its ingredients are not always the things that society considers important. People who have all the things that seem desirable are still looking for happiness. In their search they are often deluded by those who stridently proclaim that unhappiness is the result of being unfulfilled — and that to be fulfilled, one must have "freedom." It follows, then, that if one is to achieve happiness a drastic change in lifestyle may be necessary. In many instances, the dissolution of marriage is frequently chosen.

What, then, does bring happiness? Our answer to this question contains six ingredients. Only one of these is material; the other five are relational. These ingredients are:<sup>2,3</sup>

1. To have been brought up in a happy home.
2. To have a satisfying marriage.
3. To have well-adjusted children who love you.
4. To have at least a few close friends.

5. To have a strong religious faith.

6. To achieve vocational success, with its attendant material rewards, prestige and security.

In our first presentation<sup>4</sup> we noted that the majority of physicians have been raised in happy homes, have friends, and have achieved vocational success. They are, however, subject to greater stresses and strains in their marriages and family lives than most other professionals. It is, therefore, important that we now inquire into those things that lead to these two ingredients of happiness: a satisfying marriage and loving, well-adjusted children. If in the process we can strengthen our marriages and improve our family life, we can then serve as teachers and role models in a society that badly needs examples of happy family life among its leaders.

### THE IMPORTANCE OF THE NURTURING ENVIRONMENT

A psychiatrist at Howard University<sup>5</sup> believes that the biggest problem in the black world today is the instability of the nuclear family. Writing in *Ebony*, she states that every aspect of the problem has come about because of deviations from what is regarded as traditional family structure. Her solution is for black families to return to a structure that is traditional. Other studies support her conclusions, for data collected in studies of behavioral disturbances suggest that all of them are due, at least in part, to defects in family structure. Normal, well-adjusted people come from homes

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that have traditional family structure.<sup>3</sup>

Although this nation has a Christian heritage, the Judeo-Christian value system has been seriously challenged by those who consider marriage and family as archaic forms which produce unhappiness.<sup>6</sup> If, however, we examine their teachings as well as those of other religious systems, we find that many do not give women and children equal status with men.

In contrast, Jews and Christians while recognizing a difference in roles have nevertheless seen both men and women as equal as created by God.<sup>7</sup> Marriage and family life, therefore, where an egalitarian relationship exists, is considered to be an important source of happiness.

Although much of our tradition concerning marital relationships and the roles of the partners is derived from the Mosaic Law, there was in the New Testament a movement away from a relationship in which all authority was vested in the husband to one in which both share in the authority. Thus the unique contributions and responsibilities of each are recognized in the marital relationship while at the same time the sharing of authority is emphasized.

Homes where husbands and wives fulfill their primary roles lovingly and joyfully (regardless of how many secondary roles they may also assume) are, almost without exception, stable, happy homes; and we have already stated our opinion — which is backed by others<sup>2,8</sup> — that being raised in such a home is one of the important ingredients of happiness. People who come from happy homes usually establish happy homes themselves.<sup>8</sup> On the other hand, many behavior problems, much neurosis, and many unhappy marriages are directly attributable to a childhood spent in a home where the parents — whether living together or separated — did not love each other.

Only when parents love each other unconditionally are they free to love their children unconditionally — and unconditional love is the only kind of love that is appropriate for the developing child. Children

need to be loved just because they are with all their virtues and faults. Those who grow up in a home where they are loved unconditionally will usually develop into mature adults who have high self-esteem, who can form lasting relationships with other people, and who will make good marriage partners.

### ATTITUDES AND ATTRIBUTES OF A GOOD MARRIAGE PARTNER

What is a good marriage partner? What are the attitudes and personality attributes that contribute to a successful marriage?

#### *Emotional Maturity*

First and most important, we believe, is emotional maturity. Landis and Landis<sup>8</sup> have described mature people as follows:

- (1) They have an understanding of human motivations. Mature people are able to recognize that their behavior, as well as the behavior of others, is the result of personality factors and inner motivations. They recognize, for instance, that domineering and controlling behavior may be produced by feelings of inadequacy and insecurity; that drinking and taking drugs often represent efforts to escape from problems the person cannot cope with; that gossip and criticism are motivated by a desire to build one's self up, to quell self-doubt.
- (2) They can think independently. Mature people profit by what they have learned in the past and make decisions based on their own knowledge and experience — not on a need to conform to their peers or to rebel against authority.
- (3) They take responsibility for their mistakes instead of "passing the buck." They are aware of their own weaknesses, and when they make mistakes they try to learn from them.
- (4) They have a sense of proportion about present desires

and future goals. They are able to recognize that they must make some sacrifices in the present if they are to earn rewards in the future. If they want vocational achievement, they must work to acquire the necessary training. If they want happy marriages, they must invest time, thought and effort to keep them growing.

- (5) They are willing to sacrifice for others. Marriage and family life are cooperative ventures, and the people involved have to make sacrifices for each other, including sometimes doing what the other wants to do for their best interests. Family members exchange services, love, support, comfort, time, energy and material possessions. Mature people are able to give as well as to receive.
- (6) They have outgrown immature attitudes toward sex and are able to discuss the subject openly and honestly. Recognizing that sex attitudes and performance are influenced by the teachings and experiences of early life, they are willing to seek help in acquiring the mature understanding needed to manage any "hang-ups" they might have.
- (7) Finally, they can assess their own level of maturity. A mature person will not be unduly fearful of assuming responsibility, but will recognize that contracting a marriage and starting a family means assuming new responsibility and making new sacrifices. They are aware of the seriousness of such a step and are prepared to invest the time and energy necessary to achieve success.

#### *Objectivity*

Another attribute needed in a good marriage partner is objectivity. Both partners must be able to see themselves realistically and to separate their feelings from their



observations. Each must realize that the world does not focus on him or her and must be able to recognize the needs, the "rights," and the personality assets and liabilities brought to the marriage.

One of the problems most often responsible for poor marriages is low self-esteem in one or both partners. Most of the mechanisms used to compensate for low self-esteem are damaging to the marriage relationship. One mechanism is to adopt the attitude, "Since I don't deserve love, I won't seek it." Another is to *demand* love, constantly and aggressively, in order to be sure of getting it. A third is to dominate the other partner in a relationship in order to enhance one's own self-esteem. Only when individuals realize they are people of worth are they able to evaluate themselves realistically, to accept their limitations and to utilize their assets to the fullest in marriage and in life. Such self-acceptance frees them to love and be loved.

It is important especially when entering marriage to be aware of the contributions family backgrounds make to personality and value systems. To a greater or lesser extent, our values are the values we learned in our families. The way we see people of our own sex and of the opposite sex is colored by the encounters we had with parents and siblings. There is an old saying that you can take a person out of the country but you can't take the country out of the person. In the same way, people can leave home but they don't escape from their families' influence on their behavior and beliefs. Understanding the parental origins of our values and personalities helps us to appreciate the necessity for altering some of our less lovable quirks if we are to enter into a state of oneness with our marriage partners.

### *Clear Conceptions of Marriage and Marital Love*

It is important that a person considering marriage see it for what it is — a completion of self. The Spanish philosopher Julian Marias<sup>9</sup> has said that we all have a radical need for a person of the opposite sex. We were

created with this need, and marriage makes us whole at the deepest level of our being. In a real marriage, we are spiritually joined to another person. This spiritual union between two partners has been called a "total" union. But no matter what we call it, it is this relationship, more than any other human relationship, that is likely to meet our personal needs and make us complete. God and society have ordained marriage as the normal state of adult human beings. Marriage is not indispensable to happiness, but lasting happiness and fulfillment are potentially found more often within the institution of marriage than outside it.

It is also important that each marriage partner have a conception of marital love. Marriage is not a casual encounter punctuated by sexual orgasms. It is a lasting union in which the partners, accepting each other for what they are, try to reach a state of oneness — a state in which they have common goals, mutual interests, and a common philosophy to live by. Love always puts the best interests and welfare of the other person above one's own. In love, each partner does his or her best to meet the other's needs — whether material, physical, sexual, emotional or spiritual.

In the Bible, marriage is regarded as a permanent, egalitarian relationship<sup>10</sup> in which the two individuals seek a union of their spirits, souls, and bodies, mutually submitting to each other. Divorce, except under rare circumstances, is not an alternative if both partners adhere strongly to Judeo-Christian beliefs.

### **INGREDIENTS OF SUCCESS IN MARRIAGE AND FAMILY LIFE**

#### *Commitment*

An ideal marriage requires commitment of a special kind — not of the kind that we make in a contract, for contracts are limited in what they prescribe. Instead, the marriage commitment should be of the kind that is expected in a *covenant*. A covenant establishes a relationship that should be broken only by death — a relationship such as that exemplified in God's covenant relationship with the Israelites or in

the "blood brother" relationships entered into by American Indians. In this latter instance friends who wished to become blood brothers would cut their arms and press the bleeding wounds together, signifying that they were thereafter of the same blood and were eternally bound to each other.

If a couple approaches marriage with this type of commitment to make it work, it will work. If there is no commitment, there is no impetus for the resolution of conflicts. When couples enter marriage with the idea that they can "get out" whenever conflict occurs, separation and divorce are almost inevitable. If, on the other hand, a couple has ruled out any consideration of divorce and knows that there are no alternatives except to live in friction or resolve the conflict, they will sooner or later resolve it. Experience will teach them the importance of communicating their ideas and feelings to each other without rancor or accusation, and of *listening* and responding to each other's communications with loving ears.

#### *Love, Trust and Order*

Second only to commitment as an essential ingredient of a happy marriage is love. Love is an emotion that draws a couple into oneness. Love also creates trust, because we never want to hurt people we love; therefore, we behave toward those people in a trustworthy way.

Love in its purest form can flower only in people who are free from anger, fear, selfishness, low self-esteem, sorrow, guilt and shame. We cannot love if we are filled with negative emotions that drive us away from other people. Marital love also requires the existence of a vacuum in our lives — a vacuum that can be filled only by the love of and for a person of the opposite sex. The love that comes in to fill this vacuum enhances our complementarity, motivates cooperation, and creates a willingness to make sacrifices, and establishes an hierarchy of valued activities that makes for order.

#### *Discipline*

Discipline is an important ingredient of family structure that is often



overlooked.<sup>11</sup> Two types of discipline are necessary in a marriage. The first is self-discipline; the second is parental discipline of children. Self-discipline is learned when children are subject to parental discipline. In the period of history through which we have just passed — a period influenced by a philosophy of permissiveness — discipline has become for some a dirty word. A number of factors have contributed to this permissive attitude. Whether the change has been related to societal affluence, new educational approaches<sup>12</sup> or the discouragement of firm discipline<sup>13</sup> is unclear.

The philosophy of permissiveness has also resulted in the relativizing of Judeo-Christian ethics — the “new morality.” Today there are fewer voices that champion morality. Many churches tend to be silent. There is little forceful support of morality and discipline — but many psychiatrists and marriage counselors are beginning to recognize the importance of both to personal happiness, to a sound marriage, and indeed to the very structure of society.

Of the three basic techniques employed by parents in disciplining their children<sup>14</sup> two are valuable when used appropriately. The third is mentioned only to be condemned.

The first technique of discipline is *power assertion*, in which the parent uses his superior physical strength to teach internal control to the child. Applications of this technique include slapping a toddler's hand, spanking or switching an older child, and sometimes even using a belt on early adolescents. Power assertion when sparingly used by a loving parent can establish and maintain authority,<sup>11</sup> especially in the early years of life. It is a must on some occasions with almost all children. Its principal purpose is to reinforce the child's desire to respond to induction. *Induction* which is the second method, should be the primary method of discipline. It makes its appeal to the child's rationality, responsibility, and desire for maturity. Because the very young child's lack of language function and his

inability to reason deductively make him unable to profit from induction, power assertion is usually the technique most suitable early in life since it reinforces the parent's displeasure. This results in the inhibition of the child's impulsiveness. As the child matures, induction may be all that is necessary.

In the third technique of discipline — *love withdrawal* — parental affection is made contingent upon the child's conformity to parental standards. The application of this technique takes many forms. One is to ignore the child. A second is to condemn, criticize, or tease the child. A third is to embarrass him or her publicly. All of these methods have deleterious effects on the child's later life, for they create low self-esteem and a fear of rejection. The most harmful method of all, however, is for a parent to threaten to desert the child or to commit suicide.

#### *Congruent Values*

In parental discipline one of the major objectives is — or should be — to provide the child with a system of beliefs that will be of value to him.<sup>15</sup> Hence it is that the parents possess congruent values in such areas as religion, marriage and family, sex, money and possessions, law and order, alcohol and drugs, work, education, health, use of leisure time, and citizenship. If husband and wife share a philosophy based on lasting values, conflicts will be reduced as each supports the other in his or her effort to live by these values. Marked philosophical differences in values not only give rise to major conflicts in a marriage but also make it difficult for the children to form a consistent value system of their own.<sup>7</sup>

Parents need to be aware that values are taught as much by example as by precept. Advice to refrain from smoking marijuana is not likely to be heeded if it is delivered by a thick-tongued parent who is drinking his or her fourth or fifth highball of the evening. A girl will probably ignore her father's warning against “sleeping around” if she knows he is having an affair with his secretary. A mother cannot expect

her son to value neatness if her own house is a shambles. Parents who consistently drive without regard for the speed limit, or who “fudge” on their income tax return, cannot expect their children to respect the law.

#### *A Positive Faith*

While it is possible to have a reasonably happy marriage and rear well-adjusted children without belief in God, parents who believe in God have a definite edge over those who do not. Recent studies of sexual adjustment led to the surprising discovery that women with faith find their sex life more satisfying than those with none.<sup>16</sup> According to Landis and Landis,<sup>8</sup> marital failure is three times more common among people with no religious affiliation than among those within religions. It is true that excessively controlling religious faiths do tend to have a disruptive influence in a family, as do differences in religious beliefs between parents. There is, however, much truth in the cliché that the family that prays together stays together — for the most part, more happily and amicably than most.

A positive religious faith impels a person “to behave toward others according to standards based on respect for others and acceptance of them as individuals of as much worth as himself.” This behavior is in direct contrast to that of the ego-centric person who always believes that he is right and that the other person should give in to him because that person's best interest and welfare are not important. It is obvious that the former individual is likely “to be capable of more satisfactory relationships and hence a better risk as a marriage partner.”<sup>8</sup>

Parents with the kind of faith that can be “caught” by their children are able to provide those children with a value system that prepares them for relating to others, both inside and outside marriage, and for handling the stresses of life that inevitably come in the common ventures of birth, marriage, work and death.

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## PHYSICAL SIGNS OF TUBERCLES

With the exception of some very rare cases, tubercles first make their appearance in the summit of the lungs. It is in this place, therefore, that we must seek them. The earliest signs usually show themselves below the clavicle. Small tubercles, separated from one another by portions of healthy lung, cannot be recognized. But at this period of their progress, the health is commonly still good, and the cough too slight to induce the patient to consult a medical man. — Laënnec, R.-T.-H., A Treatise on the Diseases of the Chest and on Mediate Auscultation.

*Signs of the accumulation of crude or miliary tubercles.* When miliary tubercles are accumulated in great numbers in the upper portion of the lungs, the sound resulting from percussion of the clavicles becomes less, and is usually unequal. The right lung being in general the earliest and most severely affected, the defect of resonance is almost always on the right side. This deficiency of sound extends sometimes lower the upper and fore parts of the chest as low as the fourth rib. These, indeed, are the only parts of the chest where the mere accumulation of tubercles can give rise to this phenomenon; if we except the inter-scapular region, in which we sometimes find a deficiency of sound, owing to the great accumulation of tubercles at the roots of the lungs and in the bronchial glands. When the sign just mentioned exists, and even where it is wanting, a diffused bronchophonism, more or less marked, is perceived beneath the clavicle, over the infraspinal fossa of the scapula, and in the axilla. We must, however, disregard this last sign, if it is perceived only about the inner and upper angle of the scapula, on account of the vicinity of the bronchia. — Laënnec, R.-T.-H., A Treatise on the Diseases of the Chest and on Mediate Auscultation.

*Signs of the softening of the tubercles.* When the tubercles begin to soften, the same signs continue; and in addition to these, the cough gives rise to a kind of gurgling, as if the matter that produced it were thick, and agitated *en masse*. The gurgling, however, soon becomes more liquid and more like the mucous rattle; and the cough, transformed to *cavernous*, indicates the formation of a pulmonary excavation. In proportion as this empties itself, the respiration also assumes the cavernous character, and together with the cough, points out the increasing extent of the cavity. The diffused bronchophonism then gives way to pectoriloquism, which is at first imperfect, and frequently interrupted, but gradually becomes more distinct. — Laënnec, R.-T.-H., A Treatise on the Diseases of the Chest and on Mediate Auscultation.

*Signs of the complete discharge of tuberculous matter.* When a tuberculous excavation is completely empty, this state is clearly indicated by the cavernous respiration and cough. In most cases the cavernous rattle is no longer heard; and if it sometimes takes place, owing to a secretion going on from the walls of the cavity, it is only temporarily, and frequently disappears for several hours, after the patient has expectorated. At this period, and often long before this pectoriloquism becomes quite perfect. — Laënnec, R.-T.-H., A Treatise on the Diseases of the Chest and on Mediate Auscultation.

# Toxic Encounters of the Dangerous Kind

## ACETAMINOPHEN POISONING

Acetaminophen (Tempra, Tylenol, Datril Nebs, etc.) now comprises 25%-29% of the over-the-counter antipyretic/analgesic market in the U.S. In Great Britain this drug is commonly used for attempted suicide and is a major cause of fulminant liver failure. In the U.S. more and more people are overdosing with acetaminophen accidentally or purposely.

The toxic dose in adults is 140 mg/kg; the toxic dose in preschool children is unknown and at this time (for reasons unknown) the drug is considered generally less toxic for small children with overdose. Anyone over the age of 9 or 10 years who ingests 10 grams at one time is in potential danger and this danger increases as the acute oral dose increases. Hepatotoxicity is the most significant manifestation of acetaminophen overdose.

The diagnosis should be made by the history of ingestion and an acetaminophen blood level (if available) obtained

4 hours or more post-ingestion because the clinical features of this poisoning are too non-specific. This value should be plotted on a nomogram (supplied free by McNeil Consumer Product Company) and appropriate treatment instituted, i.e., empty the stomach by emesis or lavage and administer the antidote (if indicated) — N-acetylcysteine (Mucomyst). The antidote should be administered in the first 24 hours post-ingestion to be effective. N-acetylcysteine has not been approved by the FDA for use as an antidote in the poisoning; supervision can be obtained by calling the Rocky Mountain Poison Center toll-free 800-525-6115.

Ronald B. Mack, M.D.  
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American Academy of Pediatrics

## NORTH CAROLINA MEDICAL CURIOSITIES

### INTRODUCTION

For several issues, the NORTH CAROLINA MEDICAL JOURNAL will present descriptions of medical curiosities observed within our borders. Some of these people have become almost legendary. Those of you interested in learning more about them and about medical curiosities in general may find the following volumes of interest.

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J.H.F.

### THE HEAVIEST MAN ON RECORD

Although Robert Earl Hughs, at 1,069 pounds, is the heaviest medically authenticated human being, very likely a North Carolinian named Johnny Alee was the greatest heavyweight of all time. He reputedly achieved the spectacular weight of 1,132 pounds.

Alee was born in Carbon (now Carbonton), North Carolina, in 1853. Although a heavy child, his weight was not abnormal. In his 10th year, however, he began to eat at an exceptional rate and his weight zoomed. In five years he had grown so large that he was unable to pass through the front door of his house. His upper thigh was said to be so huge that an adult had difficulty getting two arms around it.

The "Fat Man" sat in a special chair built to support his great weight. He was so heavy he

could not rise to his feet without help. It was hard for him to move around at all. To walk to a table 15 feet away required a quarter of an hour and it then took him quite a while to recover from the exertion.

Alee's house stood on a hillside and part of the structure rested on logs eight feet off the ground. He continued to get heavier while the floor of his house did not get any stronger. One day in 1887 he was walking over the log-supported floor when he crashed through to his arm pits. Friends rushed to help, but before they could lift him back up he stopped breathing. It was the opinion of the physicians who examined Alee that his death was caused by heart failure brought on by fright. Reportedly, coal company scales were used to ascertain his weight at death.

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Since 1916, Saint Albans Psychiatric Hospital has been building on a tradition of quality care for adults and adolescents. A private, nonprofit hospital, Saint Albans is dedicated to meeting the unique needs of each patient.

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cents, substance abuse, and geriatrics. We are also studying expansion in other areas as we prepare for a new era of service.

ROLFE B. FINN, M.D. Medical Director

ROBERT L. TERRELL, JR. Administrator

## Saint Albans Psychiatric Hospital

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# Editorials

## PRIMARY CARE IN LOCAL HEALTH DEPARTMENTS

Our era is struggling for a name, uncertain in its selection and uncomfortable about the decisions history will render about us. As governments seek to define and fulfill their functions and have difficulty distinguishing the permanent from the transient, we are told that we live in a post-industrial society, in the Atomic Age and the computer era, that our natural resources are running out and that our ever-increasing needs must be anticipated and be met by planning for both personal and civil needs. The government responsible for all this has been aptly called "The Therapeutic State"<sup>1</sup> wherein as representative of the people it assumes, often without consulting us, that it best knows what is good for us and can take such responsibility as a part of its obligation to maintain the general welfare.

As our therapeutic state struggles we must expect jurisdictional agonies. Who is responsible for what? Nation, state or municipality? How is the public to be informed and how are the people to decide wisely, particularly when fewer and fewer of us are voting in primary and general elections? The magnitude of the problem can perhaps be best measured by weighing each issue of the Federal Register and comparing total annual weights for the last decade.

It is appropriate to consider the analysis offered in this issue of the *Journal* by Kaluzny and his group (p 167) of recent efforts to approach the problem of health care through local health departments in North Carolina. Our state has been a pioneer in providing such care and in fact Robeson County had the first rural county health department in this country headed by a physician.<sup>2</sup> How better to satisfy "substantial unmet need" than through these units? So in 1977 the General Assembly allocated funds for the provision of such services only to find a somewhat unsympathetic North Carolina Medical Society. Kaluzny and his colleagues have reviewed these events to show why his attempt failed to enlist the support of the state society. As might be suspected, physicians familiar with the work of their local departments were more sympathetic and those less knowledgeable more hesitant — suggesting that advocates of the measure had not been active enough at the hustings. On the other hand the program may have been deficient in structure and inappropriate in its potential application. Or perhaps advocates and detractors had not found a common ground for successful planning.

That there still exists some confusion is confirmed by their assertion that "it was clear . . . that substantial unmet needs remained" in "improved access to primary health care services." That it was clear implies an authority aware of many aspects of problems but who has not identified them for enough of us. Access to services is a bit like a loading dock; even if the goods are there, they must be picked up for delivery. If this be so, how much more unmet need might actually be created by such a system? Opponents may have also wondered how the program was to be evaluated. After all, some of the needs might be more apparent than real depending on the attitude of deliverers or recipients. What sort of cost-benefit analyses were to be done and when were they to be carried out? What provisions were to be made if the program proved unsuccessful? How would success be defined?

Bosk<sup>3</sup> has recently emphasized that patient management is an exercise in the application of occupational rituals. Since these rituals are dictated by cultural and societal needs, the program might have been better conceived had more attention been given to these aspects. In a sense, the population of North Carolina has been redefined as a patient and attention to these elements is really essential. If we are to be citizens in a therapeutic state, health care implies something quite different from the treatment of the diseased patient or even from group therapy.

When faced with problems, clinicians are concerned primarily with three phases: managing uncertainties, making therapeutic decisions, and evaluating outcomes.<sup>3</sup> Hesitant and uncertain about an uncertain program, the society's executive council wisely sought more data before making a decision, realizing that postponing is itself sometimes a decision. Workable rituals have not evolved in our therapeutic state, but when they do they must include provisions for evaluating results and for recognizing that some programs no matter how nobly conceived may be improved or even fail.

J.H.F.

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## THANK YOU

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### TAKING THE CURE

It is somewhat ironic that the time of decision for our society concerning the providing of primary medical care by our county health departments should have coincided roughly with the closing of the Western North Carolina Hospital at Black Mountain in March 1980. Without the participation of the state of North Carolina in the care of patients, the control of tuberculosis in the Old North State would have been different indeed. Our first sanatorium was established in 1908 at McCain in Hoke county; nearly three decades were to elapse before hospital beds were to be made available in western North Carolina when a second facility was opened at Black Mountain in November 1937. One year later despite nine county sanatoriums with 575 beds, McCain and Black Mountain, the state still had fewer than one patient bed for each annual death from tuberculosis.<sup>1</sup> The situation gradually improved with the addition of sanatoriums in Wilson in 1942 and in Chapel Hill in 1953, but dramatic change had to await the introduction of streptomycin.

Now all state and county units except McCain are closed, tuberculosis is relatively rare and the unwary physician might assume that a victory has been won. Hardly a victory, but at least a small triumph! As Scott illustrates this month in the *Journal*, the management of tuberculous outpatients in North Carolina is considerably less than ideal. Because we deal with it less frequently, tuberculosis is suspected less often and is allowed to continue its course uninterrupted by the therapy now so effective. But the white plague has always been a deceiver, masquerading as almost any process we care to name, attacking meninges, lymph nodes, lungs, pericardium, bones and joints, liver, adrenals, larynx, genitourinary tract and bowel, a recent patient with ileocecal disease suspected clinically waiting 50 years for bacteriological confirmation of the diagnosis.<sup>2</sup> Usually a lingering invader, a subtle pathogen, the acid-fast organism may also multiply so exuberantly that even our potent drugs fail to arrest the process.

Slavin and his colleagues<sup>3</sup> have recently compared late generalized tuberculosis as it presented in 60 patients before antibiotics (1937-1949) and in 40 the present era (1949-1959). Among the former, pulmonary and neurologic involvement was much more frequent and weight loss and fever were more common. Disease is now more likely to be seen in the elderly; before 1949, 82% (49/60) of patients were less than 60 years of age, while half in the antibiotic era were over 60. Tuberculosis was the predominant disease process in 73% of the early group and in only 28% of later subjects, so that tuberculosis today might almost be considered a disease of medical progress. Given the changing nature of the process as it presents itself, it is apparent that chest films, spinal taps and skin tests, though valuable, are not as useful diagnostically as they once were. But 97 of Slavin's 100 cases had hepatic granulomata at autopsy, so that liver biopsy should be carefully considered when tuberculosis is suspected. Bone marrow culture, once highly esteemed, proved, however, of limited value. In keeping with these observations is a recent report of tuberculosis in a nursing home,<sup>4</sup> pointing out yet again that the elderly and the debilitated are more susceptible to the disease. So let us not forget nurses, technicians, patients on dialysis or who are receiving immunosuppressive therapy and physicians because we are all more likely to contract tuberculosis.

If no obituary can be written for consumption, one can be written for the way of life it required before antibiotics. Gone are the testimonials that salubrious mountain air was ultimately curative. Gone too are prolonged bedrest with shoulders braced by sandbags to restrict movement, collapse therapy — pneumothorax, pneumoperitoneum and thoracoplasty — the mid-afternoon siesta and the notions that the disease lent a particular artistic intensity to its victims — Keats, George Sand, Henry Fielding, the Brontes and many others. Gone too are the cold porches and the x-ray conferences of such importance to staff and patients. Reading Thomas Mann's *The Magic Mountain*, a tale of a tuberculosis sanatorium in Switzerland before World War I (and things changed little thereafter until 1949), is like entering another world where time has no meaning and where learning to take the cure — bedrest and patience — with its implications of conferring superiority over the healthy folk from the flat lands was a near necessity.

At the time of the changing of the therapeutic guard there were "old" phthisiologists who were reluctant to use the new drugs, fearful that the disease would flare up more violently thereafter and perhaps threatened by therapies which would destroy their medical world. If anyone then would have predicted the demise of the sanatorium system and the effectiveness of short term or outpatient therapy, he would have been labeled a pariah and been run out of town. Now pulsed therapy seems to be the treatment of choice in uncomplicated cases. Isoniazid 300 mg and rifampin 600 mg are given daily by mouth for one month; then they are given twice weekly in doses of 15

mg/kg and 600 mg respectively for eight months.<sup>5</sup> Thus this program seems to induce more rapid sputum conversion (80% within two months) and fewer reactions or failures of therapy. From the standpoint of cost-benefit and need, we can only note that daily rifampin for nine months would cost about \$400, while 99 doses under the "pulsed" program about \$150. Therapy of course must be supervised carefully because compliance will certainly be less in clinics than in hospitals, but this program is simple, cheap and effective.

Perhaps the moral of the tale at least when we consider the state in medicine is that the problem of tuberculosis was obvious. Patients with an extremely serious disease had to be treated and the apprehensive well protected. The target was visible to everyone in the form of a sick friend, relative or neighbor. When we get mixed up between healing and preventing in

this age, it does not seem to be as simple as it once was. But there may be a niche varying in size and depending on circumstance for primary care facilities in public health programs. It worked well for tuberculous patients and still will for them and others as long as we have a clear perception of what we seek, an accurate method for assessing results and flexibility allowing the appropriate modification when the need for change becomes apparent.

J.H.F.

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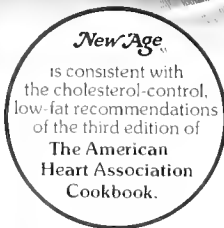
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By Karen Zupko, Director  
Department of Practice Management  
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Right now you probably have a patient who's wondering:

- why your medical assistant asked for his symptoms on the phone when all he wanted was a simple appointment.
- exactly what a physician in your specialty does.
- why her "other doctor" doesn't schedule appointments six months in advance.
- if your assistant is going to ask him to pay now for today's visit.
- if she should call you at home if the baby is sick at 8 p.m.

Whether you're a solo family practitioner or a specialist in a group practice, you'll find that a patient information booklet is a good way to answer these and other questions your patients have. It's an effective way to communicate and consider the benefits:

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2. Patient information booklets have been shown to be effective in reducing unnecessary telephone calls. In some practices booklets have cut incoming

## Preparing a Patient Information Booklet

phone calls by as much as 20 percent. Think of the saved staff time!

### Where to Begin

First decide what areas your booklet will cover. Topics most often discussed are: specialty and philosophy of care; what to expect on a first visit if you're a specialist; appointments; telephone call backs; billing; insurance; hospital privileges; the reception room; and staff services. Some physicians also include a section on general clinical information and recommended first aid procedures. Others have added a map showing the office location. What you decide to include depends on you, your specialty, and your style of practice.

Your medical assistant and office staff may be asked questions repeatedly that you never hear, so be sure to ask them for their ideas. Also keep in mind, that the most effective patient information booklets are written using "I" or "We" and are conversational in tone. As for style, it's always a good idea to show the patient how following a policy or office routine benefits him or her. For example, it's better to say, "we ask that you call and cancel an appointment as far in advance as possible so we can give this time to another patient" than "please call and cancel an appointment if you can't make it so the doctor's valuable time isn't wasted." Booklets taking a "Thou shalt not . . ." approach are rarely effective and are most often offensive to patient-readers.

## What Will It Cost?

The cost of developing a patient information booklet is small. Your "first edition" can simply be typed on a standard sheet of 8½ by 11 inch paper, which is folded in half booklet style. You can take it to a duplicating service who can mimeo the sheets for a low cost on colored paper. Later you may decide to have the booklet set in type at a local printer. We'd advise checking with several print shops for cost estimates and choosing a type face that elderly patients can easily read.

## Booklet Distribution

This is the last step in implementing a patient information booklet, but it may be the most important. It's best if you or a member of your staff gives the booklet out and says: "We're sure as a new patient you have some ques-

tions about our practice that you may not have asked today. We may have answered your questions in this booklet; please *read* it, *keep* it, and *refer* to it." This is much more effective than simply having copies available in the reception room. Some patients may decide National Geographic or McCall's looks more interesting and they may never read it. Some specialists mail their booklets in advance of a first appointment, which is an especially good idea if the patient has a one-time problem. And, it is advisable to distribute the booklet to established patients when they come in for an office visit. To sum up, your patients will think the booklet is important — if *you* do.

For more details write for "Preparing a Patient Information Booklet" OP-441 and include 30¢: Order Department, American Medical Association, P.O. Box 821, Monroe, Wisconsin 53566.

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# *North Carolina Division Of Health Services*

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## **STATEMENT ON BYSSINOSIS**

Byssinosis is a recognized occupational respiratory disease associated with exposure to raw cotton dust, flax and hemp fibers. It is a disease which can be identified in both acute and chronic forms. The worker with acute byssinosis experiences a tightness of the chest occurring in the morning after a few days absence from work, usually on Mondays. As time goes on this acute reaction may last for longer periods of time. This acute form of byssinosis may be experienced by new textile workers or it may not become evident until after years of exposure. The chronic form of byssinosis found in workers after continued exposure results in chronic obstructive lung disease. At present, the association between acute byssinosis and chronic byssinosis is not clearly understood. Acute byssinosis may progress into chronic byssinosis. On the other hand there may be workers who suffer from chronic byssinosis who never had acute byssinosis.

The disease, however, has been recognized in British cotton mills since the early 1800s. Epidemiologic studies of byssinosis by Schilling and Roach in Lancashire cotton mills in the 1950s formed the basis for the first cotton dust exposure limit adopted in the United States, the 1964 ACGIH (American Conference of Governmental Industrial Hygienists) Threshold Limit Value of  $1 \text{ mg/M}^3$  of total dust. This consensus standard was subsequently promulgated as a legal standard under the Walsh-Healey Act in 1968 and by OSHA in 1971.

Epidemiological studies conducted by Yale University and jointly by Duke University, the North Carolina Division of Health Services and Burlington Industries in the 1960s and early 1970s confirmed that byssinosis was prevalent in American cotton mills. The disease is strongly associated with exposure to airborne respirable lint-free dust raised in early steps of yarn production. It was further determined that cigarette smoking interacts with exposure to lint-free respirable cotton dust to increase the prevalence and severity of byssinosis. Low grades of cotton — presumably because of the higher trash content — produce greater quantities of respirable dust and consequently a higher incidence of byssinosis. The vertical elutriator technique for measurement of respirable cotton dust exposure developed in the Duke-DHS-Burlington study was shown to be more accurate in characterizing the prevalence and distribution of bys-

sinosis than the total dust methods used in the earlier British work on which the first standards were based.

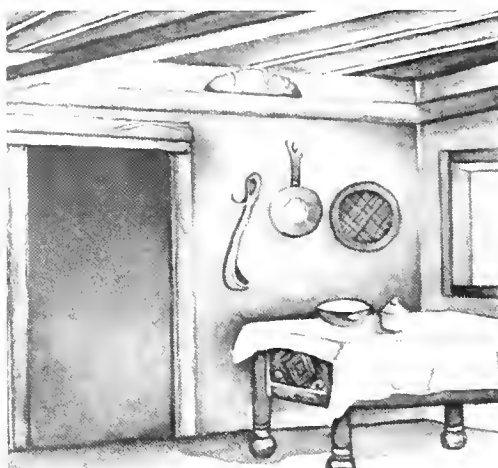
Despite the improvement in associating environmental conditions with observed morbidity, the specific agent(s) in the dust that cause(s) illness are poorly understood. Consequently, the new cotton dust exposure limits promulgated by the Occupational Safety and Health Administration (OSHA) in 1978 are based on dose-response data using vertical elutriation respirable dust ( $< 15\mu$ ) measurements. This new standard was challenged in the federal courts but upheld in November 1979. Subsequently it was delayed, finally to be released on March 27, 1980. The Division of Health Services has long advocated the adoption of a comprehensive cotton dust standard and supports the new 1980 standard which lists permissible exposure limits of 200 micrograms per cubic meter ( $\mu\text{g/M}^3$ ) lint-free respirable cotton dust for yarn manufacturing,  $750 \mu\text{g/M}^3$  lint-free respirable cotton dust in slashing and weaving, and  $500 \mu\text{g/M}^3$  lint-free respirable cotton dust for areas other than yarn manufacturing, slashing and weaving. The new standard requires periodic monitoring of dust levels, posting warning signs, respiratory protection, a written compliance program of engineering and work practice controls, education and training for employees, and pre-employment and periodic medical surveillance. Copies of this new standard may be obtained from the North Carolina Department of Labor.

The medical surveillance portion of the cotton dust standard (section h) requires a program of initial and periodic examinations for all employees exposed. The initial exam performed prior to initial assignment requires a medical history, a standardized questionnaire (contained in Appendix B of the standard), pulmonary function measurement including determination of (FVC) and ( $\text{FEV}_1$ ) and the percentage that the measured values differ from the predicted values using standard values supplied in Appendix C of the standard. The tests shall be made before the employee enters the work place on the first day of the work week following at least 35 hours after the previous exposure. The tests shall be repeated from 4 to 10 hours after the beginning of the work shift. Based upon the questionnaire results, each employee shall be graded according to Schilling's byssinosis classification system.

The periodic examination provided annually shall include at least an update of the medical history and

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1. Florey HW, Chain E, Heatley NG, et al: *Antibiotics*. London, Oxford University Press, 1949, p 2.
2. Bac-Data Bacteriologic Report, Professional Market Research, 1978-1979. The clinical significance of *in vitro* data is unknown.
3. Erythromycin prescribing information (in *Physicians' Desk Reference*, ed 34, Oradell, NJ, Medical Economics Co, 1980) states that staph resistance may develop during treatment.

See brief summary of prescribing information on  
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†In serious, life-threatening infections, oral preparations of the penicillinase-resistant penicillins should not be relied on for initial therapy.

‡Not all isolates may have been tested using both discs.

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## Brief Summary of Prescribing Information

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### INDICATIONS

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected. (See Important Note below.)

Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

### IMPORTANT NOTE

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital. For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing. Such strains of staphylococci have been capable of producing serious disease in some instances resulting in fatality. Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

### CONTRAINDICATIONS

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.

### WARNING

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines and corticosteroids.

Safety for use in pregnancy has not been established.

### PRECAUTIONS

The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy, appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

### ADVERSE REACTIONS

Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

### USUAL DOSAGE

Adults: 250 mg q 6h

Children: 50 mg /Kg /day in equally divided doses q 6h. Children weighing more than 20 Kg should be given the adult dose. Administer on empty stomach for maximum absorption.

**N B** INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR ACUTE GLOMERULONEPHRITIS.

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standardized questionnaire and pulmonary function measurements. The periodic examination shall be provided every six months for employees in the following categories: (1) an FEV<sub>1</sub> of greater than 80% of predicted but with a decrement of 5% or 200 milliliter on the first work day (2) an FEV<sub>1</sub> of less than 80% of predicted or (3) where in the opinion of the physician, any significant change in questionnaire findings, lung function tests, or other diagnostic tests has occurred. Any employee with an FEV<sub>1</sub> less than 60% of predicted shall be referred to a physician for a detailed pulmonary examination.

The employer shall supply the physician with the following: (1) a copy of the regulations, (2) a description of the employee's duties as they relate to the employee's exposure, (3) the employee's exposure level, (4) a description of any personal protective equipment used and (5) information from previous medical examinations. The physician's written opinion which shall be furnished to the employee and also kept by the employer for 30 years shall contain the results of the medical examination and test, the physician's opinion as to whether the employee has any detected medical condition which would place the employee at increased risk of impairment due to further exposure, the physician's recommended limitations upon the employee's exposure to cotton dust or upon the employee's use of respirators including a determination of whether an employee can wear a negative pressure respirator and if not, a determination of the employee's ability to wear a powered air-purifying respirator and a statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions in question.

Section (k) of the standard addresses recordkeeping requirements which the employer must maintain for 30 years. This requirement was recently (May 23, 1980) revised from 20 years to 30 years. The record for medical surveillance shall contain: (1) the name and social security number of the employee and job description, (2) a copy of medical examination results and physician's recommendations, (3) a copy of the physician's written opinion, (4) any employee medical complaints, (5) a copy of the standard and (6) a copy of information supplied to the physician by the employer.

It is believed that compliance with this new standard will greatly reduce the incidence of byssinosis. The standard's emphasis on prevention of byssinosis by reduction of exposure coupled with a good medical surveillance program for the early detection of illness will no doubt result in a tremendous reduction in the incidence of byssinosis among workers. In addition to medical surveillance and the reduction of cotton dust exposure, employees should also be encouraged to stop smoking or to never acquire the habit. Because of the variation in individual susceptibility there is no known threshold of exposure below which all workers will be protected. Therefore the medical surveillance program will identify and protect the sensitive work-



ers who may otherwise not be protected by reducing exposure levels to the specified levels.

In time, as byssinosis becomes more clearly understood, we hope that a legal definition of "exposure to cotton dust" will be arrived at and incorporated into the new cotton dust standard. Currently, many provisions of the standard are contingent on employee exposure to any amount of cotton dust no matter how small or infrequent with no regard to degree of risk. If an action level could be determined, then certain provisions of the standard such as periodic dust monitoring, employee education and training and medical surveillance could be revised for employees whose exposure falls below this level. A change of this nature would improve the standard as well as reduce the burden of compliance with the standard for employers who have employees at extremely low risk.

North Carolina began workers' compensation for byssinosis as an occupational illness in the early 1970s. Since that time over 1,100 men and women have filed byssinosis claims for workers' compensation. The North Carolina Industrial Commission currently relies on an Advisory Medical Committee (byssinosis panel) to diagnose and determine the impairment due to byssinosis. The use of expert panel physicians to diagnose chronic lung disease is a system that has long been used in workers compensation claims. Diagnosis by the committee based on standard diagnostic criteria is a fair and equitable method to diagnose byssinosis and to determine impairment as a result of occupational exposure. Disability, however, is determined by the Industrial Commission and is indicative of the employee's loss of earning power. The law indicates that workers who are disabled due to cotton dust exposure are entitled to compensation, but it should not be overlooked that textile workers are also subject to the same non-occupational lung diseases as the general population and, therefore, a worker with a lung disease should not be automatically assumed to have byssinosis. In an effort to expedite the time consuming process of workers compensation settlements, the governor recently convened a Brown Lung Study Committee to study the processing of byssinosis claims and to make recommendations to expedite their determination. The committee report was submitted April 10, 1980, and contained numerous recommendations in such areas as claims processing, medical reports, medical issues, apportionment and other legal issues, staffing and equipment, panel physicians, docketing, settlements, guidance to claimants and rulemaking.

One very important recommendation of the committee was that a special medical committee should be appointed to develop workable solutions to the medical issues involved in processing byssinosis claims. These issues should include definition of a standard byssinosis medical examination, diagnostic criteria, and guidelines for determination of disability. The panel was appointed and an agreement should soon be reached on the issue of diagnosing byssinosis with a recommendation for standard diagnostic criteria.

An issue to which the study committee spoke was apportionment: what is the extent of employer liability for compensation if a claimant's lung disease is due to cotton dust exposure and to other factors which are not related to the occupation? Employees contend that if cotton dust exposure has made a significant contribution to a claimant's disability, the employer's liability for compensation should not be reduced when non-work related factors have contributed to the disability. Employers contend that compensation liability should be limited by the relative contribution that the claimant's occupational exposure has made to this disability. A test of the apportionment issue was recently brought before the North Carolina Court of Appeals which ruled that totally disabled workers are entitled to full compensation if byssinosis has contributed to their inability to work, even if other factors are involved. The issue subsequently was appealed to the North Carolina Supreme Court and remains for now unsettled. Prior to the recent ruling by the appeals court, the Industrial Commission had adopted to some extent the position that employee liability is limited to the relative contribution the claimant's occupational exposure had made to his disability. Regardless of the final outcome, every effort should no doubt be made by the examining physician(s) to quantitate the relative contribution of occupational and non-occupational causes of impairment. Accumulation of this type of medical information will certainly facilitate a ruling which will be fair and reasonable to all concerned.

The diagnosis of byssinosis and determination of disability due to byssinosis is no doubt a very complex issue. Two documents have just become available.



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Brent Plyler, C.L.U.

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one written by a special Ad Hoc Committee of the North Carolina Medical Society chaired by Dr. Mario Battigelli concerning the diagnosis of byssinosis. This paper, a detailed, comprehensive statement on byssinosis and its diagnosis, can be obtained from the North Carolina Medical Society. The other, a general statement on byssinosis, was prepared by a working committee of the American Lung Association of North Carolina, chaired by Dr. H. A. Saltzman. This statement provides helpful information written in non-technical language for patients and physicians.

OSHA estimates there are currently 35,000 employed and retired United States textile workers disabled by byssinosis, including 15,000 disabled North Carolinians.

Current problems are concerned with uniform diagnosis, administration of workers' compensation, the treatment of those with the disease and the prevention of new cases of byssinosis through whatever means possible.

The basic role of public health is to assure, promote, and protect the health of the public. In keeping with this role, the North Carolina Division of Health Services has been actively involved since the late 1960s in efforts to determine the prevalence of byssinosis, to prevent byssinosis and to control cotton dust exposures. Involvement to date includes (1) a study of 500 textile workers for evidence of byssinosis, (2) participation in the Duke University, Burlington Industries, Division of Health Services byssinosis prev-

alence study, (3) conducting OSHA health compliance surveys in over half of the textile mills in the state, (4) providing industrial hygiene consultation on request to industry for evaluation (total-dust and respirable-dust surveys) and control of cotton dust exposures, and (5) providing nursing consultation to advise industry on how to initiate and maintain medical programs for the protection of workers and maintenance of their health.

The textile industry is advancing in the area of cotton dust control. Much of the new textile equipment has built-in dust control devices. A number of companies in North Carolina specialize in the manufacture and installation of cotton dust control systems.

While byssinosis may never be completely eliminated in North Carolina, progress has and is being made. A standard medical examination along with diagnostic criteria and guidelines for the determination of disability will soon be available. Workers with byssinosis will be detected and properly managed and receive compensation if indicated. Finally, the prevention of byssinosis by the control of employee exposure levels and routine medical surveillance to protect the health of the current work force can be realized.

Hugh M. Tilson, M.D., Director  
Division of Health Services

Charles D. Baucom, Director  
Occupational Health Branch

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James F. Emmert, Executive Director

Rex R. Taggart, M.D., Medical Director

# Correspondence

## PERINATAL MORTALITY

To the Editor:

We in the Division of Health Services were delighted to see the article by Dr. Rozier on perinatal mortality in the October issue of the NORTH CAROLINA MEDICAL JOURNAL. Dr. Rozier, the staff of Southeastern General Hospital and prenatal care services in Lumberton are to be congratulated for achieving a reduction in perinatal mortality over the last ten years. Especially, the hospital professional staff is to be praised for its careful case-by-case review of its mortality experience with an eye toward improving perinatal care.

Dr. Rozier identifies a group of fetal deaths during labor as salvageable and, in so doing, accepts the challenge to reduce this number in his institution. We should be encouraged that fetal deaths during labor are becoming unusual events, on the order of one or two per year in our larger institutions. Dr. Rozier identifies as an "unsolved problem" the incidence of premature labor. With modern obstetrics, cervical cerclage and chemical tocolysis are important treatments in the prevention of premature labor and delivery. Their application is becoming more widespread in our state. Of greater importance is the future development of early, comprehensive and continuous prenatal care. Sokol and his colleagues,<sup>1</sup> for example, report a significant reduction in prematurity and a 50% reduction in perinatal mortality associated with a multidisciplinary comprehensive prenatal care service. Thus, we are challenged to develop such ambulatory services. Prematurity and perinatal mortality can both be reduced by better prevention of unwanted pregnancy. For 1980 in North Carolina, 28.9% of all premature infants were born to mothers 19 years of age and under. Several national studies estimate that around 80% of teen pregnancies are unintended.

While we are enthusiastic about these aspects of Dr. Rozier's article, we are concerned with the ideas of

"unavoidable deaths" and "irreducible minimal fetal loss." These views may tend to discourage our efforts in prevention when greater effort is needed. First, at several institutions in North Carolina, liveborn infants weighing 750 to 1,000 grams at birth have survival rates approaching 50%. Intact survival is increasing. Thus it is difficult to characterize a fetal death with birth weight under 1,000 grams as unavoidable by the weight criterion alone. Second, lethal congenital abnormalities, particularly neural tube defects and some congenital heart defects, can be anticipated by genetic assessment and antenatal diagnosis which allow us to offer pregnancy prevention and therapeutic abortion to families who choose to use those methods. Alpha fetoprotein screening and ultrasonography are rapidly developing techniques which are being used in medical centers and made more widely available to North Carolina residents through referral.

Finally, no white fetal mortality rates for Southeastern General, for North Carolina, and for the United States are higher than those rates for whites, suggesting strongly, that underserved populations exist who do not receive enough basic perinatal care.

For these reasons the Division of Health Services is committed to increasing activities to reduce perinatal mortality, and encourage our greater mutual effort. Thank you for this opportunity to express our views on this important subject.

Richard R. Nugent, M.D.  
Lead Consultant  
Perinatal Care Program  
Maternal and Child Health Branch  
N.C. Department of Human Resources  
Division of Health Services  
Raleigh, N.C. 27602

## Reference

1. Sokol RJ, Woolf RB, Rosen MG, Weingarden K: Risk, antepartum care, and outcome: impact of a maternity and infant care project. *Obstet Gynecol* 56:150-156, 1980.

# Bulletin Board

## NEW MEMBERS of the State Society

The following members have joined the North Carolina Medical Society during the month of January 1981:

### ASHE-ALLEGHANY COUNTY

Lyon, Mary Elizabeth, MD, (FP) Rt. #2, Box 51-A, Sparta 28675

### AVERY COUNTY

Littlejohn, Mark Hays, MD, (R) Cannon Mem. Hospital, Banner Elk 28604

### COLUMBUS COUNTY

Sutherland, James Albert, Jr., MD, (OBG) Baldwin Woods, Whiteville 28472

### CRAVEN-PAMLICO-JONES COUNTY

Chance, James Kenneth, MD, (OPH) 1 Wilson Point, New Bern 28560

### CUMBERLAND COUNTY

Swanson, David Leonard, Jr., MD, (FP) FAHEC, 1601-B Owen Dr., Fayetteville 28306

### DAVIDSON COUNTY

Busby, William Jarvis, MD, (ORS) 105 Pineywood Rd., Thomasville 27360

### DURHAM-ORANGE COUNTY

Ford, Kerry, MD, (R) Duke, Dept. of Radiology, Durham 27710  
Martin, Philip L., (RESIDENT) 9211 Willow Meadow, Houston, Texas 77031

### FORSYTH-STOKES-DAVIE COUNTY

Austin, Wm. Elliot, MD, (GE) 511 Foxcroft Dr., Winston-Salem 27103

Mills, Stephen Alan, MD, (CDS) 3320 Paddington Lane, Winston-Salem 27106

### GUILFORD COUNTY

LeBauer, Samuel Morgenstern, MD, 1519 Burlewwood Dr., Greensboro 27401

Young, Clinton D., MD, 1200 N. Elm St., Greensboro 27420

### MOORE COUNTY

Southern, Edward M., MD, (OBG) 2916 Hillanbrook Dr., Kalamazoo, Mich. 49008

### PITT COUNTY

Foil, Mary Beth (STUDENT) P.O. Box 514, Greenville 27834

### ROCKINGHAM COUNTY

Khan, Anwaar Ahmed, MD, (IM) 829 S. Scales St., Reidsville 27320

### ROWAN COUNTY

Robbiano, Dewey, MD, 1601 Brenner Avenue, Salisbury 28144

### WAKE COUNTY

DiNapoli, Raphael Joseph, Jr., MD, (PH) Box 2091, Raleigh 27602  
Kennedy, Willard Lee, MD, (IM) 3083 Computer Dr., Ste. 100, Raleigh 27609

Robinson, Charles Hall, Jr., MD, (OPH) 2400-F Still Forest Place, Raleigh 27607

Schaaf, Robert Edmund, MD, (R) P.O. Box 19366, Raleigh 27619  
Zellinger, Michael Jay, MD, (CD) 1212 Cedarhurst Dr., Raleigh 27609

### WAYNE COUNTY

Haverkamp, John, MD, (D) 1706 Evergreen Ave., Goldsboro 27530

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2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information."

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<sup>†</sup>Step 1 usually consists of an initial phase (a diuretic alone), a titration phase (dosage adjustment and/or addition of a K<sup>+</sup> supplement or K<sup>+</sup>-sparing agent) and a maintenance phase (a diuretic alone or in combination with a K<sup>+</sup> supplement or K<sup>+</sup>-sparing agent).

### Serum K<sup>+</sup> and BUN should be checked periodically (see Warnings).

Before prescribing, see complete prescribing information in SK&F Co. literature or PDR. A brief summary follows:

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This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

**Contraindications:** Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

**Warnings:** Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or electrolyte intake of potassium is markedly impaired. If supplementary potassium is needed, potassium should not be used. Hyperkalemia can occur, has been associated with cardiac irregularities, more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodic serum K<sup>+</sup> levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K<sup>+</sup> intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, throm-

bocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

**Precautions:** Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K<sup>+</sup> frequently; both can cause K<sup>+</sup> retention and elevated serum K<sup>+</sup>. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Anti-hypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with

possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia, although uncommon, has been reported. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

**Adverse Reactions:** Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components.

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—Thomas Edison  
Inventor

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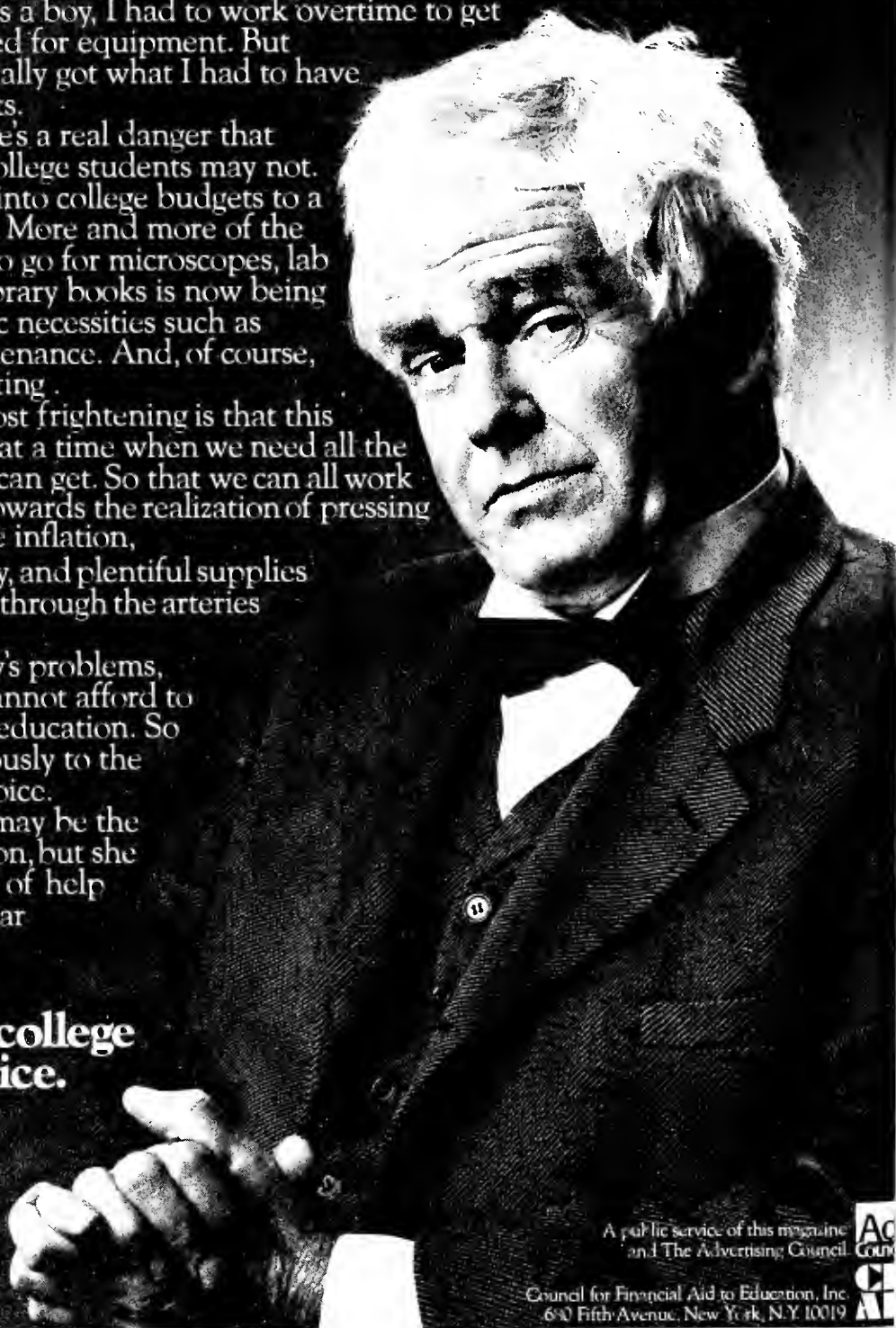
Today there's a real danger that many American college students may not. Inflation is eating into college budgets to a dangerous degree. More and more of the money that used to go for microscopes, lab equipment and library books is now being consumed by basic necessities such as heating and maintenance. And, of course, my specialty—lighting.

What is most frightening is that this squeeze is coming at a time when we need all the trained minds we can get. So that we can all work more effectively towards the realization of pressing goals: manageable inflation, revitalized industry, and plentiful supplies of energy coursing through the arteries of this country.

With today's problems, America simply cannot afford to have second-best education. So please give generously to the college of your choice.

Necessity may be the mother of invention, but she needs a great deal of help if she's going to bear children.

**Help!**  
**Give to the college**  
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#### March 7

"34th Annual Greensboro Academy of Medicine Symposium"  
Place: Jefferson Standard Club, Greensboro  
Fee: None  
For Information: Timmothy W. Lane, M.D., Moses H. Cone Memorial Hospital, Greensboro 27424, (919) 379-4062

#### March 11

"Current Clinical Problems in Family Practice"  
Place: Pitt County Memorial Hospital, Greenville  
Fee: \$15  
Credit: 3 hours  
For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville 27834

#### March 11-14

Internal Medicine 1981  
Place: Berryhill Hall, UNC School of Medicine  
Fee: \$150  
Credit: 25 hours  
For Information: William B. Wood, M.D., UNC School of Medicine, (919) 933-2118

#### March 16-20

5th Annual Family Medicine Review Course  
Place: Bowman Gray School of Medicine  
Fee: \$275  
Credit: 40 hours  
For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

#### March 25-27

"Alcoholism: Biomedical Research"  
Place: Carolina Inn, Chapel Hill  
Fee: \$30  
For Information: The Center for Alcoholism Studies, UNC School of Medicine, Chapel Hill 27514

#### March 26-27

Physician Extenders  
Place: Bowman Gray School of Medicine  
Credit: 10 hours  
For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

#### March 27-28

Frank R. Lock Symposium in Obstetrics and Gynecology  
Place: Bowman Gray School of Medicine  
Fee: \$150  
Credit: 9 hours  
For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine

#### April 3-4

"Practical Pediatrics"  
Place: Bowman Gray School of Medicine  
Fee: \$50  
Credit: 9 hours  
For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

#### April 4-5

"5th Annual Radiology Update"  
Place: Bowman Gray School of Medicine  
Fee: \$50/75  
Credit: 9 hours  
For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

#### April 9 and 10

"Third Annual Health Law Forum"  
Place: Pitt County Memorial Hospital, Greenville  
Fee: \$100  
Credit: 8.5 hours  
For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville 27834

#### April 22

"Drug Interactions and Reactions"  
Place: Lee County Hospital  
Fee: \$12  
Credit: 3.5 Hours  
For Information: R. S. Cline, M.D., (919) 775-2111, ext. 219

#### May 13-14

Respiratory Care Symposium: Breath of Spring, 1981  
Place: Bowman Gray School of Medicine  
Fee: \$35  
Credit: 9 Hours  
For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

#### May 14-16


N.C. Chapter of American College of Surgeons  
Place: Center for Continuing Education, Appalachian State  
For Information: J. S. Mitchener, Jr., M.D., P.O. Box 1808, Laurinburg, N.C. 28352

#### May 15

"Pediatrics Day"  
Place: Pitt County Memorial Hospital, Greenville  
Fee: \$30  
Credit: 5 hours  
For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville 27834

#### May 22-24

10th Annual Pediatric Pulmonary Disease  
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Povan <sup>3</sup>	Not Indicated	

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in mixed helminthic infections**

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(mebendazole)



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coverage in mixed  
helminthic infections**

**Vermox<sup>®</sup>** TABLETS  
(mebendazole)

**Contraindications** VERMOX is contraindicated in pregnant women (see: Pregnancy Precautions) and in persons who have shown hypersensitivity to the drug.

**Precautions PREGNANCY:** VERMOX has shown embryotoxic and teratogenic activity in pregnant rats at single oral doses as low as 10 mg/kg. Since VERMOX may have a risk of producing fetal damage if administered during pregnancy, it is contraindicated in pregnant women.

**PEDIATRIC USE:** The drug has not been extensively studied in children under two years; therefore, in the treatment of children under two years the relative benefit/risk should be considered.

**Adverse Reactions** Transient symptoms of abdominal pain and diarrhea have occurred in cases of massive infection and expulsion of worms.

**Dosage and Administration** The same dosage schedule applies to children and adults. The tablet may be chewed, swallowed or crushed and mixed with food. For the control of pinworm (enterobiasis), a single tablet is administered orally, one time.

For the control of roundworm (ascariasis), whipworm (trichuriasis), and hookworm infection, one tablet of VERMOX is administered, orally, morning and evening, on three consecutive days.

If the patient is not cured three weeks after treatment, a second course of treatment is advised. No special procedures, such as fasting or purging, are required.

\* Mean cure rate of VERMOX<sup>®</sup> in treating whipworm; cure rate range of 61-75%. Data on file at Janssen Pharmaceutica Inc.

\*\* Mean egg reduction of VERMOX<sup>®</sup> in treating whipworm; egg reduction range of 70-99%. Data on file at Janssen Pharmaceutica Inc.

† Rollo, I.M.: Drugs used in the chemotherapy of helminthiasis, in Goodman, L.S.; and Gilman, A. (eds.): *The Pharmacological Basis of Therapeutics*, ed. 5. New York, Macmillan, 1975, p. 1034.

†† Miller, M.J.; Krupp, I.M.; Little, M.D.; Santos, C.: Mebendazole an effective anthelmintic for trichuriasis and enterobiasis. *JAMA* 230 (10): 1412-1414, Dec. 9, 1974.

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The items listed in the above column are for the six months immediately following the month of publication. Requests for listing should be received by "WHAT? WHEN? WHERE?", P.O. Box 27167, Raleigh 27611, by the 10th of the month prior to the month in which they are to appear. A "Request for Listing" form is available on request.

#### News Notes from the—

### DUKE UNIVERSITY MEDICAL CENTER

The John A. Hartford Foundation has awarded a three-year fellowship to Dr. J. Scott Rankin, teaching scholar in cardiac surgery at the Duke University Medical Center. The award was made by the John A. and George L. Fellowship Program. The fellowship will help further Dr. Rankin's work in the pathophysiology of surgical heart disease, including the effects of ischemic and valvular disorders on myocardial function.

Dr. Rankin is a graduate of the School of Medicine of the University of Tennessee and has been with Duke since 1974.

\* \* \*

A Duke University Medical Center physician, Dr. Robert McLelland, was program chairman of the American College of Radiology's National Conference on Breast Cancer, held March 9-13 in San Diego. McLelland, associate professor in the Division of Imaging, Department of Radiology, is also chairman of the ACR committee on mammography.

The conference was co-sponsored by the American Cancer Society.

\* \* \*

The American Heart Association has selected Dr. James E. Lowe of the Duke University Medical Center as an Established Investigator. The award carries with it a \$150,000 grant to help underwrite Lowe's research interests. His research is focused on investigating the biochemical, functional, structural and electrical changes that occur when the heart is deprived of its normal supply of blood.

Lowe, who received his M.D. degree from the UCLA School of Medicine, will become assistant professor of surgery and pathology at Duke in July.

\* \* \*

Dr. Roscoe R. (Ike) Robinson of Duke University Medical Center will become vice president for medical affairs at Vanderbilt University as of July 1. Robinson is associate vice president at the Duke University Medical Center and chief executive officer of Duke Hospital.

Robinson is also president-elect of the American Society of Nephrology, Florence McAlister Professor

of Medicine and director of the Division of Nephrology at Duke.

Dr. William G. Anlyan, vice president of health affairs of the Duke University Medical Center, said: "In his years at Duke, Ike has become an internationally renowned kidney specialist. He has done a magnificent job as chief executive officer and associate vice president of the medical center in orchestrating the operations of Duke Hospital, including the recent move to the new Duke Hospital North."

Robinson, 51, is a native of Oklahoma City and earned his M.D. degree from the University of Oklahoma in 1954. He did his internship and residency in internal medicine at Duke and then spent a year in research training at the Columbia-Presbyterian Medical Center in New York City. After three years service in the Air Force, Robinson returned to Duke in 1960. He was appointed director of the Division of Nephrology in 1962 and was promoted to professor of medicine in 1969.

Robinson is married to the former Ann Allen of Enid, Okla.

\* \* \*

Drs. Seymour Grufferman and Robert Rosati have

been awarded a three-year, \$650,000 grant from the Mellon Foundation to develop a clinical epidemiology program at the Duke University Medical Center. The clinical program to be developed will include career M.D.s and Ph.D.s who will work closely with practicing doctors and who will be supported by a corps of new Duke faculty recruited and trained during the grant period. The faculty members will be trained and experienced in the use of such traditional tools of the epidemiologist as computer science, biostatistics, medical sciences and bioengineering.

\* \* \*

Three seniors at the Duke University School of Medicine will gain clinical experience in African nations this spring as participants in a fellowship program operated jointly by the Medical Assistance Program of Wheaton, Ill., and Reader's Digest International Fellowships.

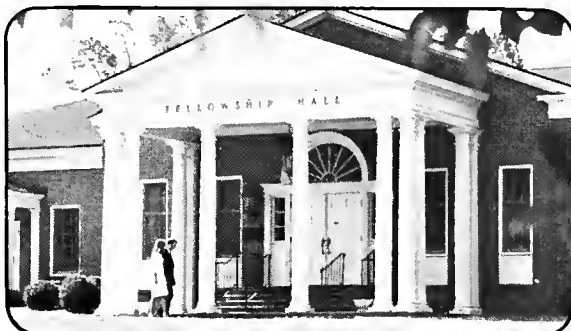
The MAP-RDIF works with mission organizations offering medical students the opportunity to gain clinical experience in relatively primitive areas.

The Duke students are among 40 fellows nationwide and will return to Durham in time to graduate with their class in May.

## TREATMENT AND LEARNING CENTER FOR ALCOHOL RELATED PROBLEMS



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Attractive, comfortable accommodations are provided for both male and female guests.



Fellowship Hall will arrange connections with commercial transportation.

The students are: Robert Campbell, who will work in the Niger Republic; Steven Schwartz, who will work in Kenya; and Chad Stevens, who will work in Zaire.

\* \* \*

Irwin Fridovich was awarded an honorary degree from l'Université René Descartes in Paris on Dec. 6 for the body of his work in biochemical research. Fridovich, James B. Duke Professor of Biochemistry with the Duke University Medical Center, was given the Docteur Honoris Causa. He is widely known for his work with antioxidants, drugs being investigated as possible weapons against a number of inflammatory disorders.

\* \* \*

Anyone requiring emergency help with scuba diving accidents may receive information 24 hours a day by dialing 1-919-684-8111 and asking for "DAN," or the Diving Accident Network. The network has been established by the F. G. Hall Laboratory for Environmental Research of the Duke University Medical Center.

Dr. Peter Bennett, director of the Hall Laboratory, is administering DAN for two years under a \$131,000 grant from the National Oceanic and Atmospheric Administration (NOAA). Bennett is a professor in the Department of Anesthesiology at Duke, and his lab is widely known for its record setting simulated dives in its hyperbaric (high pressure) chamber.

Persons calling the above number will be connected to one of the trained, experienced physicians on call at the Hall Lab. The physician at Duke will then tell the caller where the nearest source of medical personnel and equipment is. In addition to the Hall Laboratory, which serves as the southeastern center for the network, there are regional centers in the states of Pennsylvania, Wisconsin, Texas/Louisiana, Washington, California and Hawaii. Each has a recompression chamber operated by trained technicians and a medical person on call around the clock.

Dr. John Miller, associate professor of anesthesiology at Duke, is the medical director of the two-year project.

In a scientific paper presented to a meeting of the Southern Section of the American Federation for Clinical Research, the researchers reported that injection of the hormone, called endoxin, into research animals causes a significant and long lasting increase in blood pressure.

The research team included Walter C. Plunkett, a graduate student in physiology; Dr. Phillip M. Hutchins, associate professor of physiology; Dr. Kenneth A. Gruber, research assistant professor of medicine; and Dr. Vardaman M. Buckalew, professor of medicine and physiology.

The research was funded primarily by the North Carolina Heart Association.

Endoxin was injected in small amounts into rats which ordinarily have normal blood pressure. The hormone caused a rise in the rats' blood pressure, reaching its peak within an hour and remaining abnormally high for an hour and a half.

To determine how endoxin works, they examined its effects on microscopic blood vessels of the kind in which blood pressure is regulated. The researchers wanted to know if endoxin would make the vessel walls more sensitive to vasoconstrictors. Indeed, that is what they found, providing one explanation for how endoxin can cause blood pressure to rise.

Endoxin is a shortened form of endogenous digoxin, meaning that the hormone is made in the body and is structurally similar to man-made digoxin.

Additional research is currently taking place at Bowman Gray to further identify endoxin's possible role in primate high blood pressure.

\* \* \*

Dr. Byron D. McLees has been appointed professor of medicine and head of Bowman Gray's Section on Pulmonary Medicine.

He succeeds Dr. Ross L. McLean, who has returned to fulltime teaching and patient care.

McLees comes to Bowman Gray from the National Institutes of Health, where he was chief of the Department of Critical Care Medicine in the Clinical Center. While at NIH, he provided medical care to several Brazilian government and military leaders, and for that he was awarded the Brazilian Peace Prize in 1980.

McLees holds the B.S. and M.S. degrees in chemistry from the University of Arkansas, and the Ph.D. degree in physiological chemistry from Johns Hopkins University. He earned the M.D. degree from Duke University, and took both internship and residency training at Duke University Medical Center.

\* \* \*

Four new assistant professors have been appointed to Bowman Gray's fulltime faculty. They are Dr. Donald R. Koritnik, comparative medicine; Dr. Thomas J. Poulton, anesthesia (intensive care unit); Dr. Peter W. Robie, medicine (endocrinology and general medicine); and Dr. Charles E. Welander, obstetrics and gynecology.

#### News Notes from the—

### **BOWMAN GRAY SCHOOL OF MEDICINE WAKE FOREST UNIVERSITY**

Researchers at the Bowman Gray School of Medicine have shown that a hormone discovered last year at the school can cause high blood pressure.

And they have uncovered one way in which the hormone works to increase blood pressure.

**When painful spasm  
is the presenting  
symptom...**



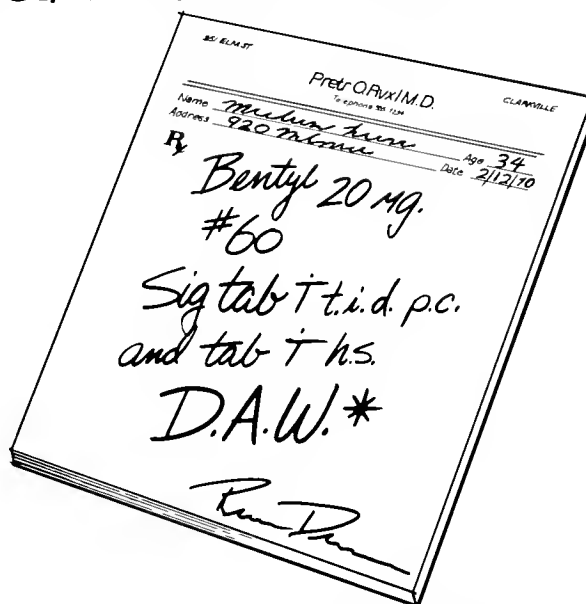


...in the functional bowel/irritable bowel syndrome<sup>†</sup>

be sure to specify

**Bentyl<sup>®</sup>**  
(dicyclomine hydrochloride USP)

20 mg. capsules, 20 mg. tablets,  
10 mg./5 ml. syrup, 10 mg./ml. injectable



*\*D.A.W.-Dispense as written*

because:

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- ⊗ The Bentyl molecule is a product of original Merrell research.
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- ⊗ The bioequivalence of the oral dosage forms permits a choice of tablets, capsules, or syrup that satisfies patient's dosage preferences.
- ⊗ Pharmacologic effect in the distal colon compared to placebo<sup>††</sup> shows how Bentyl affects abnormal motor activity in the irritable colon patient.<sup>†</sup>

<sup>†</sup> This drug has been classified "probably" effective for this indication.

**Merrell**

<sup>††</sup> In the experiments that showed significant pharmacologic effect, the dose of Bentyl used was 50 mg. I.M., which is higher than that permitted in the labeling. This dose was deemed justified since the recommended daily dose of injectable Bentyl is 20 mg. (2 ml.) every 4 to 6 hours. Thus, in 8 hours, a patient could receive a total of 60 mg. I.M. and at that time, as a result of the sustained plasma levels from the 20 mg. injections at 0 and 4 hours, might show an even higher plasma level that occurs after a single 50 mg. I.M. dose. Presumably, the same pharmacologic effect would follow. These observations do not constitute evidence of efficacy.

# Bentyl®

(dicyclomine hydrochloride USP)

Capsules, Tablets, Syrup, Injection

AVAILABLE ONLY ON PRESCRIPTION

Brief Summary

## INDICATIONS

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the following indications as "probably" effective:

For the treatment of functional bowel/irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS.

For use in the treatment of infant colic (syrup).

Final classification of the less-than-effective indications requires further investigation.

**CONTRAINDICATIONS:** Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy); obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis); paralytic ileus, intestinal atony of the elderly or debilitated patient; unstable cardiovascular status in acute hemorrhage; severe ulcerative colitis; toxic megacolon complicating ulcerative colitis; myasthenia gravis.

**WARNINGS:** In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. There are rare reports of infants, 6 weeks of age and under, administered dicyclomine hydrochloride syrup, who have evidenced respiratory symptoms (breathing difficulty, shortness of breath, breathlessness, respiratory collapse, apnea), as well as seizures, syncope, asphyxia, pulse rate fluctuations, muscular hypotonia, and coma. The above symptoms have occurred within minutes of ingestion and lasted 20 to 30 minutes. The timing and nature of the reactions suggest that they were a consequence of local irritation and/or aspiration rather than a direct pharmacologic effect. No known deaths or permanent adverse effects have been reported. Bentyl syrup should be used with caution in this age group.

**PRECAUTIONS:** Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy.

Use with caution in patients with:

Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon.

Hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension.

Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur.

**ADVERSE REACTIONS:** Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia; urinary hesitancy and retention; blurred vision and tachycardia, palpitations; mydriasis; cycloplegia; increased ocular tension; loss of taste; headache; nervousness; drowsiness; weakness; dizziness; insomnia; nausea; vomiting; impotence; suppression of lactation; constipation; bloated feeling; severe allergic reaction or drug idiosyncrasies including anaphylaxis; urticaria and other dermal manifestations; some degree of mental confusion and/or excitement, especially in elderly persons; and decreased sweating. With the injectable form there may be a temporary sensation of lightheadedness and occasionally local irritation.

**DOSAGE AND ADMINISTRATION:** Dosage must be adjusted to individual patient's needs.

**Usual Dosage**

Bentyl 10 mg. capsule and syrup: *Adults:* 1 or 2 capsules or teaspoonfuls syrup three or four times daily. *Children:* 1 capsule or teaspoonful syrup three or four times daily. *Infants:* ½ teaspoonful syrup three or four times daily. (Dilute with equal volume of water.)

Bentyl 20 mg.: *Adults:* 1 tablet three or four times daily.

Bentyl Injection: *Adults:* 2 ml. (20 mg.) every four to six hours intramuscularly only.

NOT FOR INTRAVENOUS USE.

**MANAGEMENT OF OVERDOSE:** The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanecol chloride USP) should be used.

Product Information as of July, 1980

Injectable dosage forms manufactured by  
CONNAUGHT LABORATORIES, INC.  
Swiftwater, Pennsylvania 18370 or  
TAYLOR PHARMACAL COMPANY  
Decatur, Illinois 62525 for  
MERRELL-NATIONAL LABORATORIES  
Division of Richardson-Merrell Inc.  
Cincinnati, Ohio 45215, U.S.A.

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O-6546 (Y115C) MNQ 442

Other appointments went to Dr. David W. Griffith Jr., research instructor in neurology (neurosonology); Gail S. Marion, instructor in family medicine and allied health (physician assistant program); and Dr. Mary J. Ruebush, research instructor in microbiology and immunology.

Appointed to the part-time faculty was Dr. Carole L. Browne, associate in anatomy; and Dr. D. E. Ward Jr., lecturer in community medicine.

\* \* \*

Dr. John L. McCain of Wilson, lecturer in community medicine at the Bowman Gray School of Medicine, has been appointed to the National Council on Health Planning and Development.

The council advises the Secretary of Health and Human Services on the development of national health planning guidelines, standards and priorities; on the implementation and administration of Title XV and Title XVI of the Public Health Service Act; on health care technology and productivity; on Section 1122 (review of health facility capital expenditures) of the Social Security Act; and on termination of state or area health planning agencies.

McCain is one of four people associated with health planning agencies to be appointed to the National Council on Health Planning and Development. McCain is a member of the North Carolina Statewide Health Coordinating Committee and the Eastern Health Systems Agency.

\* \* \*

Bowman Gray's Family Practice Center has been accredited for a three-year period by the Accreditation Association for Ambulatory Care, Inc. (AAAHC).

The award recognizes compliance with nationally accepted standards concerning rights of patients, governance, administration, quality of care, quality assurance, medical records, surgical services, radiology services, facilities, educational activities, teaching and publication activities and research.

\* \* \*

Dr. Julian F. Keith, professor and chairman of the Department of Family and Community Medicine, has been elected vice chairman of the Board of Directors of the Winston-Salem Industries for the Blind.

\* \* \*

Dr. Frederick W. Kremkau, associate professor of medicine (biophysics), has been appointed to a two-year term as chairman of the Biological Effects Committee of the American Institute of Ultrasound in Medicine. He also was elected to a two-year term as chairman of the Basic Science and Instrumentation Section of the American Institute of Ultrasound in Medicine. He was appointed chairman of the subcommittee on Ultrasonics in Medicine of the Institute of Electrical and Electronics Engineers, and was elected to a two-year term as advisor to the executive



board of the Society of Diagnostic Medical Sonographers.

\* \* \*

Dr. George Podgorny, clinical professor of surgery (emergency medical services), has been appointed editor of the "Consultation in Emergency Medicine" section of *The Annals of Emergency Medicine*.

\* \* \*

Dr. Robert W. Prichard, professor and chairman of the Department of Pathology, has been elected a member of the council of the Southeast Division of the Association of Pathology Chairmen.

\* \* \*

Dr. Louis deS. Shaffner, professor of surgery, has been elected chairman of the board of the Forsyth County Hospital Authority.

#### News Notes from the

### UNIVERSITY OF NORTH CAROLINA- CHAPEL HILL SCHOOL OF MEDICINE AND NORTH CAROLINA MEMORIAL HOSPITAL

Dr. Philip M. Blatt has been named director of the Comprehensive Hemophilia Diagnostic and Treatment Center in the School of Medicine.

Blatt, an associate professor of medicine and pathology, has served as associate director of the hemophilia center since it was established in 1977.

The hemophilia center is one of the world's largest, providing treatment and counseling for about 1,000 people with bleeding disorders from throughout the Southeast. It is part of the UNC-CH Center for Thrombosis and Hemostasis, headed by Dr. Harold Roberts, professor of medicine and pathology.

Blatt is a native of Harverstraw, N.Y. He earned his M.D. degree at Washington University in St. Louis and served his residency at North Carolina Memorial Hospital. Blatt served postdoctoral fellowships in hematology at the University of Utah Medical Center in Salt Lake City and the UNC-CH School of Medicine before joining the medical faculty in 1974.

\* \* \*

A new office at the School of Medicine has been established to promote student research and assist with funding for short and long-term research projects.

The Office of Student Research and Academic Enrichment has assisted 25 students in finding the sponsorship and funds they need to participate in an academic research program, according to Dr. Arthur L. Finn, director.

Funding for short-time research projects has been made available through the National Institutes of Health and Finn hopes to have students beginning long-term projects in the fall by drawing on other available sources.

"Students interested in research projects may opt for anything that qualifies as scholarly activity, basic science or clinical, from molecular research to patient interaction," Finn said.

\* \* \*

Three faculty members from the School of Medicine have received 1981 Junior Faculty Development awards.

The \$3,000 awards, which were given for the first time last spring, are made to faculty members in their last years in non-tenured positions.

Dr. James Mandell, assistant professor of surgery and pediatrics, was named as a recipient of an R. J. Reynolds Industries award while Dr. Douglas A. Drossman, assistant professor of medicine and psychiatry, and Dr. J. Charles Jennette, assistant professor of pathology, received Institutional Development Foundation awards.

\* \* \*

Barry Goz, Ronald G. Thurman and Dr. Tai-Chan Peng, associate professors of pharmacology, have

## Summer Cruise/Conferences on Legal-Medical Issues



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Caribbean Conference — July 29 — August 8, 1981 aboard TSS Fairwind.\* Visit St. Maarten, Antigua, Barbados, Martinique and St. Thomas.

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Both conferences are designed to conform with the 1976 Tax Reform Act.

\*Liberian Registry  
\*\*Greek Registry

been awarded grants from the N.C. Alcoholism Research Authority.

\* \* \*

Dr. John T. Sessions, professor of medicine, was an adviser for research planning to the National Institutes of Arthritis, Metabolism and Digestive Diseases Sept. 14 in Bethesda, Md.

\* \* \*

Dr. Walter B. Green, assistant professor of orthopedic surgery and pediatrics, was guest speaker at a symposium on "Hemophilia and Related Disorders" Oct. 3-4 in Columbia, Mo.

\* \* \*

Dr. Douglas A. Drossman, assistant professor of medicine and psychiatry, spoke on "Practical Approaches to the Management of Irritable Bowel" Oct. 20-21 in Nantucket Island, Mass.

\* \* \*

Dr. Eugene S. Mayer, associate dean and director of the Area Health Education Centers program, attended dedication ceremonies for the new Patient Services Tower at Charlotte Memorial Hospital and Medical Center and delivered the dedication address Nov. 16.

\* \* \*

Dr. Kenneth L. Cohen and Robert L. Peiffer, assistant professors of ophthalmology, presented a paper, "Sarcoidosis and Ocular Disease in a Young Child," at the 74th Annual Scientific Assembly Nov. 18 in San Antonio.

\* \* \*

Dr. James H. Scatliff, chairman of radiology, presented two papers at the Southeastern Neuroradiology Society meeting Oct. 15-18 in White Sulphur Springs, W.Va.

\* \* \*

Dr. Robert D. Langdell, professor of pathology, was re-elected to a second three-year term on the policy-making Board of Governors of the College of American Pathologists at the fall meeting held in St. Louis.

\* \* \*

Dr. John A. Shallal, assistant professor of surgery, presented a paper titled "Hemodynamic Effect of Hypothermic-Pulsatile Cardiopulmonary Bypass" at the annual meeting of the Association for Academic Surgery, Nov. 6-8 in Birmingham.

\* \* \*

Dr. Paul T. Frantz, assistant professor of surgery, spoke on "Clinical and Experimental Evaluation of Left Ventriculoiliac Shunt Bypass During Repair of Lesions of the Descending Thoracic Aorta" at the

## CYCLAPEN®-W (cyclacillin)

### Indications

Cyclacillin has less *in vitro* activity than other drugs in the ampicillin class and its use should be confined to these indications. Treatment of the following infections:

#### RESPIRATORY TRACT

Tonsillitis and pharyngitis caused by Group A beta-hemolytic streptococci  
Bronchitis and pneumonia caused by *S. pneumoniae* (formerly *D. pneumoniae*)  
Otitis media caused by *S. pneumoniae* (formerly *D. pneumoniae*) and *H. influenzae*  
Acute exacerbation of chronic bronchitis caused by *H. influenzae*

\*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, non-penicillinase producers

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing

**Contraindications** Contraindicated in individuals with history of an allergic reaction to penicillins.

**Warnings** Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

**Precautions** Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

**PREGNANCY** Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

**NURSING MOTHERS:** It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.

**Adverse Reactions** Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reported.

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

Cyclacillin is not indicated in children under 2 months of age. Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

**Dosage** (Give in equally spaced doses)

INFECTION	ADULTS	CHILDREN*
Respiratory Tract		
Tonsillitis & Pharyngitis	250 mg q.i.d.	body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d.
Bronchitis and Pneumonia		
Mild or Moderate Infections	250 mg q.i.d.	50 mg/kg/day q.i.d.
Chronic Infections	500 mg q.i.d.	100 mg/kg/day q.i.d.
Otitis Media	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Skin & Skin Structures	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Urinary Tract	500 mg q.i.d.	100 mg/kg/day

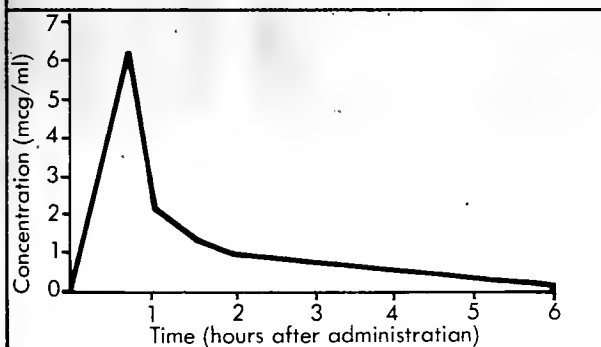
\*Dosage should not result in a dose higher than that for adults.

†depending on severity

Half the dose  
is absorbed in 9 minutes!  
compared to 32 minutes for ampicillin.\*



Mean blood levels in mcg/ml after 250 mg cyclacillin single oral dose



- Rapid, virtually complete absorption from GI tract
- Exceptionally high peak blood levels — 3 times greater than ampicillin (Clinical efficacy may not always correlate with blood levels.)
- Rapidly excreted unchanged in urine — 1½ times faster than ampicillin

\*Based on  $T^{1/2}$  values for single oral doses of 500 mg cyclacillin tablet and 500 mg ampicillin capsule. Data on file, Wyeth Laboratories.

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Wyeth Laboratories • Philadelphia, Pa. 19101



Fewer episodes of diarrhea and rash than with ampicillin in studies to date.

Efficacy proven in the treatment of bronchitis, pneumonia, and upper respiratory infections.†

In 117 patients, 73 with bronchitis/pneumonia caused by *S. pneumoniae* and 44 with streptococcal sore throat caused by Group A beta-hemolytic streptococcus, CYCLAPEN®-W achieved a clinical response rate of 100%! Bacterial eradication was 95% and 86% respectively.

†Due to susceptible organisms.

See important information on facing page.

**CYCLAPEN®-W**  
(cyclacillin) 250 and 500 mg Tablets  
125 and 250 mg per 5 ml Suspension

more than just spectrum

NEW  
NAME

annual meeting of the Southern Thoracic Surgical Association, Nov. 12-15 in Sulphur Springs, W.Va.

\* \* \*

Dr. Benson R. Wilcox, professor and division chairman of surgery, presented an invited talk at the scientific sessions of the American Heart Association Nov. 17-20 in Miami Beach. He spoke on "Surgical Anatomy of Double Outlet Right Ventricle with Situs Solitus and Antrioventricular Concordance."

\* \* \*

Dr. Richard L. Clark, associate professor of radiology, is the author of the book, *Renal Microvascular Disease: Angiographic Microangiographic Correlates*, published recently by Little, Brown and Co., Boston, Mass.

\* \* \*

Fourteen faculty members presented papers at the 53rd Scientific Sessions sponsored by the American Heart Association, Nov. 17-20 in Miami Beach. They are: Dr. Gilbert C. White, assistant professor of medicine; Michael J. Griffith, research assistant professor

of medicine; Dr. Henry S. Kingdon, professor of medicine; Dr. Harold R. Roberts, professor of medicine; Kuo-San Chung, instructor of medicine; Roger L. Lundblad, associate professor of pathology and biochemistry; Howard M. Reisner, assistant professor of pathology; Dr. Herbert A. Cooper, associate professor of pathology; R. H. Wagner, professor of pathology; Richard Tidwell, assistant professor of pathology; Dr. J. Dieter Geratz, professor of pathology; J. McDonagh, associate professor of pathology; Roy R. Hantgan, research assistant professor of biochemistry; and J. Hermans, professor emeritus of biochemistry.

\* \* \*

Michael McGinnis, assistant professor of bacteriology, had a book, *Laboratory Handbook of Medical Mycology*, published by Academic Press, New York. He also has been appointed an editor of the "Journal of Clinical Microbiology."

\* \* \*

Edward L. Chaney, associate professor of radiology, presented a paper at the International Symposium on Biomedical Dosimetry Oct. 27-31 in Paris.

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Barbara E. James, associate professor of psychiatry, was elected vice president of the National Council on Family Relations at the council's annual meeting Oct. 21-27 in Portland.

\* \* \*

Ronald G. Thurman, associate professor of pharmacology, presented invited lectures at the Congreso Argentio de Patologia and the XVII Argentio Congreso Nacional de Alcoholismo Nov. 4-8 Buenos Aires, Argentina. He was awarded permanent foreign membership in the Sociedad Argentinian de Patologia.

\* \* \*

Marlys Mitchell, associate professor and director of occupational therapy, chaired a meeting of the publications committee of the American Occupational Therapy Association Nov. 17-19 in Rockville, Md.

\* \* \*

Five members of the Department of Neurology attended the 10th annual meeting of the Society for Neuroscience Nov. 9-14 in Cincinnati. Dr. James N. Hayward, chairman and professor of neurology and medicine, gave an address in honor of Chandler McCuskey Brooks, physiologist at State University of New York. Dr. Robert Greenwood, Dr. J. Douglas

Mann, Troy Albert Reaves, assistant professors of neurology, presented scientific papers.

\* \* \*

Dr. James F. Howard Jr., assistant professor of neurology, presented a paper on Electrophysiological Studies in Myasthenia Gravis Dec. 4 at the New York Academy of Sciences Conference on Myasthenia Gravis.

\* \* \*

Colin D. Hall, associate professor of neurology, and Patricia B. Porter, communicative disorders specialist, presented a workshop on School Management of the Neuromuscularly Handicapped Child to the 32nd Annual Conference on Exceptional Children Nov. 21 in Charlotte.

\* \* \*

Dr. Joe Cohn, Family Medicine, was awarded first prize for a paper presented at the North Carolina Academy of Family Physicians Annual Scientific Assembly Nov. 19-22 in Charlotte.

\* \* \*

Dr. Ernest Craige, professor of medicine, was a visiting professor at Emory University School of Medicine Nov. 25-26. He also spoke at Michigan State University.

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### News Notes from the—

## EAST CAROLINA UNIVERSITY SCHOOL OF MEDICINE

A new program at the School of Medicine and Pitt County Memorial Hospital brings the hope of a kidney transplant closer to home for citizens in Eastern North Carolina with end-stage renal disease.

Medical center officials were notified in January that approval to implement renal transplantation services has been granted by the Health Financing Administration of the Department of Health and Human Services. The program is directed by the Department of Surgery.

The medical school's Office of Health Services Research and Development estimates that 168 patients in the region will be medically eligible for a transplant in 1981. The Department of Surgery expects to perform 25 procedures during the first year of the program.

Dr. Frank Thomas, professor of surgery and director of renal transplantation, said the new service makes renal transplantation "more accessible and convenient" to many patients who now depend on dialysis.

Before joining the medical school in August 1979, Thomas was a member of the renowned kidney and heart transplantation team at the Medical College of Virginia. He is founding member of the American Society of Transplant Surgeons.

In addition to Thomas, ECU physicians Walter J. Pories, Charles Rob and Edward G. Flickinger are members of the transplantation team. The team also includes surgery residents Carl Haisch and Robert Deepe, surgical transplant coordinator Dennis Blessing, medical transplant coordinator Sandra Bullock, and nurse practitioner Diane Meelheim.

Dr. Alfred L. Ferguson, clinical associate professor of medicine, and Drs. Thomas E. Burkart and Wayne Kendrick, clinical assistant professors of medicine, serve as nephrology consultants along with ECU physician Richard Merrill. Dr. Emmett J. Walsh, clinical associate professor of surgery, Dr. J. Richard Gavigan, clinical assistant professor of surgery, and Dr. Edward O. Janosko, clinical instructor of surgery, share responsibility for the removal of kidneys.

Donor testing and tissue matching are performed by Dr. Robert Hanrahan, assistant professor of pathology and laboratory medicine.

\* \* \*

Dr. Donald R. Hoffman, associate professor of pathology, published "Comparison of Methods of Performing the Radioallergosorbent Test: Phadebas, Fadal — Nalebuff and Hoffman Protocols" in the December 1980 issue of *Annals of Allergy*.

\* \* \*

Dr. Loretta Kopelman, associate professor of



humanities, is the author of "Estimating Risks in Human Research" in a recent issue of *Clinical Research*.

\* \* \*

Dr. Leonard S. English, assistant professor of microbiology, has received a \$51,453 grant from the National Institutes of Health to study "Regulation of the Immune Response in Vivo."

\* \* \*

Dr. Andrea L. Hunter, assistant professor of pharmacology, has received a \$26,711 grant from the National Institutes of Health to study "Hepatotoxic Effects of Thiono-Sulfur Compounds."

#### N.C. ACADEMY OF FAMILY PHYSICIANS

Dr. Amos Johnson of Garland was given the gavel used by the 1970 House of Representatives in the final passage of Senate Bill 3418, the so-called family doctor bill, which he so actively supported. The gavel has

now been presented to the N.C. Academy of Family Physicians. The presentation made at the academy's annual meeting in November cited Johnson's role in the legislation which, among other things, provided for grants to medical schools and hospitals for the establishment of departments and programs in family medicine. The gavel will be displayed in the headquarters of the North Carolina Academy.

#### AMERICAN COLLEGE OF PHYSICIANS

Eight North Carolinians have been chosen Fellows of the American College of Physicians and will be inducted at the college's annual session in Kansas City in April. They are Dr. Philip M. Blatt of Chapel Hill, Dr. Thomas W. Hauch of Charlotte, Dr. Barton F. Haynes of Durham, Dr. Samuel T. Drake of Gastonia, Dr. Bruce R. Brodie of Greensboro, Dr. Thomas R. Griggs of Hillsborough, Dr. Dudley B. Anderson of Wilson and Dr. Edward J. Pisko of Winston-Salem.

## In Memoriam

#### HERVEY WINTHROP MEAD

Dr. Hervey Winthrop Mead died Oct. 20, 1980. He was born June 8, 1916, in Mitchell, S.D. He went to Middlebury College in Vermont, receiving an A.B. degree in 1938. In 1942 he completed his medical training at the Medical College of South Carolina and went for an internship at Grady Memorial Hospital in Atlanta, after which he entered the Army Medical Corps as a general medical officer, serving July, 1943 through December, 1946. After a three-month refresher course in general medicine at the University of Vermont Medical College, he practiced in Columbia, S.C., until June, 1951, when he moved his practice to Pendleton, S.C. In June 1960 he went to Tulane University Medical School for residency training in psychiatry, finishing in June, 1963. After residency he served as a staff psychiatrist at East Louisiana State Hospital in Mandeville, La., and part-time medical director at the Hammond Mental Health Clinic in Hammond, La. In June, 1965, he moved to Charlotte where he was in the private practice of psychiatry until his retirement June 30, 1979.

Hervey had a sustained career as a well-trained and effective healer whose concern and understanding of his patients' problems generated a large and devoted medical practice that commanded love and respect measurable partly by the deep sense of loss that his patients felt at the time of his retirement. A physician who took his professional responsibilities seriously, he was active in the state neuropsychiatric association as well as locally. He served as an attending staff member at Charlotte Memorial during his residence in Charlotte and was chief of the psychiatric staff from 1974 to 1976.

Hervey was married to the former Cleo Taylor. They had three sons. He is also survived by two brothers, Beverley and Mate. Hervey was a member of the Carmel Presbyterian Church.

He was a warm, loving person whose compassionate involvement with others will long be remembered, and whose death leaves those who knew him — his family, friends, and colleagues and his patients — with a great loss.

Mecklenburg County Medical Society

# OFFICIAL CALL HOUSE OF DELEGATES

pursuant to the Bylaws, Chapter V, Section 1:

## HOUSE OF DELEGATES Meetings scheduled

**Notice to: Delegates, Alternate Delegates, Officials of the North Carolina Medical Society, and Presidents and Secretaries of county medical societies.**

Sessions of the HOUSE OF DELEGATES will convene in the Cardinal Ballroom, Pinehurst Hotel, Pinehurst, North Carolina, at the following times:

**Thursday, May 7, 1981—10:00 a.m.—Opening Session**  
**Saturday, May 9, 1981—2:00 p.m.—Second Session**

A member of the CREDENTIALS COMMITTEE will be present at the Desk in the Hotel Lobby, Wednesday, May 6, 1981, 3:00 p.m. to 5 p.m., and Thursday, May 7, 1981, 8:30 a.m. to 10:00 a.m. to certify Delegates. Delegates are urged to bring their Credential Cards for presentation at the Registration Desk. Delegate Badges must be worn to be seated in the HOUSE OF DELEGATES.

## REFERENCE COMMITTEE HEARINGS

Reference Committee hearings are scheduled to begin Thursday, May 7, 1981, at 2:00 p.m.

FRANK SOHMER, M.D., President  
HENRY J. CARR, JR., M.D., Speaker  
JACK HUGHES, M.D., Secretary  
WILLIAM N. HILLIARD, Executive Director

# Highlights of the Program

## 127TH ANNUAL SESSION NORTH CAROLINA MEDICAL SOCIETY MAY 7-10, 1981 PINEHURST HOTEL PINEHURST, NORTH CAROLINA

### WEDNESDAY, MAY 6

- 12:00 Noon-5:00 p.m. — REGISTRATION — (West Lobby)
- 12:00 Noon — BOARD MEETING & LUNCH — (Crystal Room) North Carolina Chapter American College of Emergency Physicians
- 2:00 p.m.-6:00 p.m. — SECTION ON EMERGENCY MEDICINE — (Crystal Room)

### THURSDAY, MAY 7

- 8:00 a.m.-5:00 p.m. — REGISTRATION — (West Lobby)
- 8:30 a.m.-5:00 p.m. — EXHIBITS open — (North, South & Dogwood Rooms)
- 8:30 a.m.-11:30 a.m. — SECTION ON NEUROLOGY & PSYCHIATRY — (Crystal Room)
- 10:00 a.m. — HOUSE OF DELEGATES — Opening Session — (Cardinal Ballroom)
- 12:00 Noon-5:00 p.m. — SECTION ON OPHTHALMOLOGY — (Crystal Room)
- 1:30 p.m.-4:00 p.m. — SECTION ON PUBLIC HEALTH & EDUCATION — (Old Dining Room, Pinehurst Country Club)
- 2:00 p.m. — REFERENCE COMMITTEE HEARINGS:  
Cardinal Ballroom  
Azalea Bar  
Board Room
- 3:00 p.m.-5:00 p.m. — SECTION ON UROLOGY — (Game Room)
- 5:30 p.m. — Social Hour — Section on UROLOGY — (Game Room)
- 6:00 p.m.-8:30 p.m. — MEDPAC Barbeque/Rally — (Poolside & Gazebo)
- 6:00 p.m. — RECEPTION — Medical College of Virginia Alumni — (Room 439)
- 7:30 p.m. — DINNER — Medical College of Virginia Alumni — (Crystal Room)

### FRIDAY, MAY 8

- 8:00 a.m.-5:00 p.m. — REGISTRATION — (West Lobby)

- 8:30 a.m.-5:00 p.m. — EXHIBITS open — (North, South & Dogwood Rooms)
- 8:30 a.m.-9:00 a.m. — CONJOINT SESSION — North Carolina Medical Society & North Carolina Division of Health Services (Cardinal Ballroom)
- 9:00 a.m.-12:00 Noon — FIRST GENERAL SESSION — (Cardinal Ballroom) SURGICAL SESSION — presented by Department of Surgery, Bowman Gray School of Medicine, Winston-Salem
- 9:00 a.m.-1:00 p.m. — SECTION ON OTOLARYNGOLOGY & MAXILLOFACIAL SURGERY — (Banquet Room, New Members Club — Pinehurst Country Club)
- 9:30 a.m.-10:30 a.m. — Executive Committee Meeting — N.C. Pediatric Society — (Room #129)
- 10:30 a.m.-5:00 p.m. — SECTION ON PEDIATRICS — (Crystal Room)
- 12:30 p.m. — SECTION ON SURGERY — Business Meeting (Cardinal Ballroom)
- 1:00 p.m. — NCSIM — Executive Committee Meeting — (Merion Cottage)
- 2:00 p.m.-5:00 p.m. — SECTION ON OBSTETRICS & GYNECOLOGY — (Cardinal Ballroom)
- 2:00 p.m.-4:00 p.m. — SECTION ON ORTHOPAEDICS — (Game Room)
- 2:00 p.m.-5:00 p.m. — SECTION ON FAMILY PRACTICE — (Azalea Bar)
- 3:00 p.m. — SECTION ON INTERNAL MEDICINE — Business Meeting — (Merion Cottage)
- 5:00 p.m. — SOCIAL HOUR — Section on ORTHOPAEDICS — (Poolside)
- 5:30 p.m. — SOCIAL HOUR — NCSIM — (Merion Cottage)
- 6:30 p.m. — SOCIAL HOUR — UNC Medical Alumni — (West Porch & Gazebo)
- 6:30 p.m. — SOCIAL HOUR & DINNER — DUKE Medical Alumni — (Pinehurst Country Club)
- 6:30 p.m. — SOCIAL HOUR — BOWMAN GRAY Medical Alumni (Cardinal Ballroom)
- 7:15 p.m. — DINNER — BOWMAN GRAY Medical Alumni — (Cardinal Ballroom)

### SATURDAY, MAY 9

- 8:00 a.m.-3:00 p.m. — REGISTRATION — (West Lobby)

8:00 a.m.-12:00 Noon — SECTION ON DERMATOLOGY — (Crystal Room)  
 8:00 a.m.-12:00 Noon — SECTION ON PATHOLOGY — (Azalea Bar)  
 8:00 a.m.-12:00 Noon — SECTION ON PLASTIC & RECONSTRUCTIVE SURGERY — (Board Room)  
 8:00 a.m.-1:00 p.m. — SECTION ON ANESTHESIA — (Game Room)  
 8:30 a.m.-12:00 Noon — EXHIBITS open — (North, South & Dogwood Rooms)  
 8:30 a.m.-12:30 p.m. — SECTIONS ON RADIOLOGY & NUCLEAR MEDICINE — (Meeting House, Mid Pines Club, Southern Pines)  
 9:00 a.m.-12:30 p.m. — SECOND GENERAL SESSION — (Cardinal Ballroom)  
 MEDICAL SESSION including HOOPER MEMORIAL LECTURE — ANNUAL ADDRESS OF THE PRESIDENT — (Cardinal Ballroom)  
 12:00 Noon — PICNIC — Section on DERMATOLOGY (West Porch)  
 1:00 p.m. — LUNCH — Section on NEUROLOGICAL SURGERY — (Crystal Room)  
 2:00 p.m.-5:00 p.m. — SECTION ON NEUROLOGICAL SURGERY — (Crystal Room)  
 2:00 p.m. — HOUSE OF DELEGATES — Second Session — (Cardinal Ballroom)  
 6:30 p.m. — PRESIDENT'S RECEPTION — (Land Sales Office)  
 7:30 p.m. — PRESIDENT'S DINNER — (Cardinal Ballroom)

#### SUNDAY, MAY 10

8:30 a.m. — BREAKFAST — AMA Delegates & Alternate Delegates (Crystal Room)  
 9:00 a.m.-1:00 p.m. — BOARD OF DIRECTORS, North Carolina Academy of Family Physicians — (Dogwood Room)

#### CONJOINT SESSION

Friday, May 8, 1981 .....Cardinal Ballroom  
 8:30 a.m.-9:00 a.m.

CONJOINT SESSION — North Carolina Medical Society and North Carolina Division of Health Services

#### GENERAL SESSIONS FIRST GENERAL SESSION

Friday, May 8, 1981 .....Cardinal Ballroom  
 9:00 a.m.-12:00 Noon

##### Convene Session

Presiding: Frank Sohmer, M.D., President, Winston-Salem

Invocation:

##### Surgical Session

Department of Surgery, Bowman Gray School of Medicine, Winston-Salem

9:00 a.m. — Opening Remarks

MODERATOR: Richard T. Myers, M.D., Professor & Chairman, Department of Surgery, Bowman Gray School of Medicine, Winston-Salem

9:05 a.m. — "WHAT'S NEW IN ENDOCRINE SURGERY?"

David Albertson, M.D., Assistant Professor of Surgery, Section of General Surgery

9:35 a.m. — "UPDATE OF LARYNGEAL TRAUMA"

James Thompson, M.D., Assistant Professor Surgery, Section of Otolaryngology

10:05 a.m. — Discussion

10:30 a.m. — COFFEE BREAK

10:45 a.m. — "ARTHROSCOPY, DIAGNOSTIC AND THERAPEUTIC CONSIDERATION"

Gary Poehling, M.D., Assistant Professor of Surgery, Section of Orthopedics

11:15 a.m. — "NEW CONCEPTS IN THE MANAGEMENT OF SCOLIOSIS"

Joseph Nicastro, M.D., Asst. Professor of Surgery, Section of Orthopedics

12:00 Noon — ANNOUNCEMENTS  
 ADJOURN

#### SECOND GENERAL SESSION

Saturday, May 9, 1981 .....Cardinal Ballroom  
 9:00 a.m.-12:00 Noon

##### Convene Session

Presiding: E. Thomas Marshburn, Jr., M.D.  
 First Vice President  
 Wilmington

##### Medical Session

Department of Medicine  
 East Carolina University School of Medicine  
 Greenville

Moderator: Eugene D. Furth, M.D., Greenville

9:00 a.m.-9:20 a.m. — NEW CAUSES OF DIARRHEA

Richard S. Marx, M.D.

9:20 a.m.-9:40 a.m. — CALCIUM STONES REVISITED

Richard H. Merrill, M.D.

9:40 a.m.-10:00 a.m. — GI HORMONES

Thomas F. O'Brien, Jr., M.D.

10:00 a.m.-10:20 a.m. — CAT EVALUATION OF THE THORAX

Barry Powers, M.D.

10:20 a.m.-10:40 a.m. — COFFEE BREAK

10:40 a.m.-11:20 a.m. — HOOPER MEMORIAL LECTURE — INDICATIONS AND CONTRA-INDICATIONS TO CORONARY ARTERY BYPASS

Allen F. Bowyer, M.D.

- 11:20 a.m.-11:40 a.m. — ADVANCES IN INTERVENTIONAL RADIOLOGY  
Michael D. Weaver, M.D.
- 11:40 a.m.-12:00 Noon — SEXUALLY TRANSMITTED DISEASE: CHLAMYDIA  
Peter B. Campbell, M.D.
- 12:00 Noon — ANNUAL ADDRESS OF THE PRESIDENT  
Frank Sohmer, M.D., President, Winston-Salem
- 12:30 p.m. — ANNOUNCEMENTS  
AWARDING OF PRIZES — (for Exhibits attendance)  
ADJOURN

### WEDNESDAY, MAY 6, 1981

- 12:00 Noon-2:00 p.m. — LUNCHEON AND MEETING — N.C. Chapter  
ACEP Board of Directors  
(Crystal Room)

### SECTION ON EMERGENCY MEDICINE

Wednesday, May 6, 1981

- 2:00 p.m.-6:00 p.m. ....Crystal Room  
CHAIRMAN: Tad W. Lowdermilk, M.D., Winston-Salem

#### Scientific Session:

- 2:00 p.m.-2:30 p.m. — ACLS IN INFANTS AND SMALL CHILDREN  
B. J. Fulton, M.D., Resident in Emergency Medicine, Bowman Gray School of Medicine & Baptist Hospital, Winston-Salem
- 2:30 p.m.-3:00 p.m. — BLS AND AIRWAY MANAGEMENT IN INFANTS AND SMALL CHILDREN  
Ron Milewski, M.D., Resident in Emergency Medicine, Bowman Gray School of Medicine & Baptist Hospital, Winston-Salem
- 3:00 p.m.-3:30 p.m. — PEDIATRIC TRAUMA  
Robert Lesslie, M.D., Resident in Emergency Medicine, Charlotte Memorial Hospital, Charlotte
- 3:30 p.m.-4:00 p.m. — PEDIATRIC FLUID RESUSCITATION AND ELECTROLYTE BALANCE  
Jim Evans, M.D., Resident in Emergency Medicine, Charlotte Memorial Hospital, Charlotte
- 4:00 p.m.-5:00 p.m. — PANEL DISCUSSION  
Robert Rieker, M.D., Assistant Professor of Medicine, Bowman Gray School of Medicine, Winston-Salem  
B. J. Fulton, M.D.  
Ron Milewski, M.D.  
Robert Lesslie, M.D.  
Jim Evans, M.D.

#### Business Session:

- 5:00 p.m.-6:00 p.m. — Election of Officers, Delegate, and Alternate Delegate for 1981-82

### THURSDAY, MAY 7, 1981

#### HOUSE OF DELEGATES —

- Opening Session .....Cardinal Ballroom  
10:00 a.m.-12:00 Noon

- REFERENCE COMMITTEE HEARINGS 2:00 p.m.  
REFERENCE COMMITTEE I — Azalea Bar  
REFERENCE COMMITTEE II — Cardinal Ballroom  
REFERENCE COMMITTEE III — Board Room

### SECTION ON NEUROLOGY & PSYCHIATRY

Thursday, May 7, 1981

- 8:30 a.m.-11:30 a.m. ....Crystal Room  
CHAIRMAN: William M. McKinney, M.D., Winston-Salem  
(Program to be announced)

### SECTION ON PUBLIC HEALTH & EDUCATION

Thursday, May 7, 1981

- 1:30 p.m.-4:00 p.m. ....Old Dining Room  
Pinehurst Country Club  
CHAIRMAN: Lewis L. Bock, M.D., Raleigh

#### Scientific Session:

- 1:30 p.m.-2:15 p.m. — DRUGS AND FOODS: HOW INCOMPATIBLE RELATIONSHIP  
Charles Reed, R.Ph.
- 2:15 p.m.-3:00 p.m. — CHANGING PROGNOSIS FOR DIABETIC MOTHERS AND THEIR INFANTS  
Paul J. Meis, M.D., Winston-Salem
- 3:00 p.m.-3:15 p.m. — BREAK
- 3:15 p.m.-4:00 p.m. — CHANGING LIFE STYLES IN A RURAL PRACTICE  
Linda M. Robinson, M.D., Coats
- 4:15 p.m. - 4:30 p.m. — Business Management  
Election of Officers, Delegate and Alternate Delegate for 1981-82

### SECTION ON OPHTHALMOLOGY

Thursday, May 7, 1981

- 2:00 p.m.-5:00 p.m. ....Crystal Room  
CHAIRMAN: John W. Reed, M.D., Winston-Salem  
PROGRAM CHAIRMAN: J. Lawrence Sippe, M.D., Charlotte
- 2:00 p.m. — CORNEAL ULCERATION AFTER CATARACT SURGERY IN KERATOCONJUNCTIVITIS SICCA  
Kenneth L. Cohen, M.D., Chapel Hill
- 2:10 p.m. — CORNEAL TATTOOING  
John W. Reed, M.D., Winston-Salem
- 2:20 p.m. — EARLY VITRECTOMY IN THE MANAGEMENT OF PROLIFERATIVE DIABETIC RETINOPATHY  
Brooks W. McCuen, II, M.D., Durham

- 2:30 p.m. — THE DIFFERENTIAL DIAGNOSIS OF HERPES SIMPLEX KERATITIS  
L. Michael Cobo, M.D., Durham
- 2:40 p.m. — CORNEAL GRAFTING FOR HERPETIC KERATITIS  
L. Michael Cobo, M.D., Durham
- 2:50 p.m. — THE CONSENSUAL PUPILLARY LIGHT RESPONSE AS AN AID TO THE GONIOSCOPIC EVALUATION OF THE NARROW ANGLED EYE  
L. Frank Cashwell, M.D., Winston-Salem
- 3:00 p.m. — HISTOCOMPATIBILITY TESTING AND HIGH RISK CORNEAL TRANSPLANT PATIENTS  
Gary N. Foulks, M.D., Durham
- 3:10 p.m. — CONFUSING CONGENITAL DISC ANOMALIES  
Baird Grimson, M.D., Chapel Hill
- 3:20 p.m. — USE OF QUICKERT SILICONE TUBE INTUBATION OF THE LACRIMAL DRAIN SYSTEM  
J. Richard Marion, M.D., Winston-Salem
- 3:30 p.m. — CLINICAL SIGNIFICANCE OF PIGMENT DUST IN THE ANTERIOR VITREOUS  
Donald P. Renaldo, M.D., Charlotte
- 3:40 p.m. — ARGON LASER ENDOPHTHALMOCOAGULATION  
Maurice B. Landers, III, M.D., and Michael Trese, M.D., Durham
- 3:50 p.m. — COFFEE BREAK
- 4:00 p.m. — RADIAL KERATOTOMY IN MOSCOW WITH PROFESSOR FYODOROV  
Harold Jacklin, M.D., Greensboro
- 4:15 p.m. — RADIAL KERATOTOMY IN SANTA FE WITH DR. BORES  
Kenneth L. Cohen, M.D., Chapel Hill
- 4:30 p.m. — RADIAL KERATOTOMY  
George W. Tate, Jr., M.D., and Robert G. Martin, M.D., Southern Pines
- 4:50 p.m. — DISCUSSION

#### Business Session:

Election of Officers, Delegate and Alternate Delegate for 1981-82

#### SECTION ON UROLOGY

Thursday, May 7, 1981

- 3:00 p.m.-5:00 p.m. ....Game Room
- CHAIRMAN: John S. Harman, M.D., Burlington
- CHAIRMAN-ELECT: Donald T. Lucey, M.D., Raleigh
- 3:00 p.m. — Business Session
- Election of Officers, Delegate and Alternate Delegate for 1981-82

- 4:00 p.m. — SCIENTIFIC SESSION  
IMPOTENCE, A NEW APPROACH TO AN OLD PROBLEM  
Floyd Fried, M.D., Chief of Urology  
UNC School of Medicine, Chapel Hill
- 5:30 p.m. — SOCIAL HOUR

#### SECTION ON OTOLARYNGOLOGY AND MAXILLOFACIAL SURGERY

Friday, May 8, 1981

- 9:00 a.m.-1:00 p.m. ....Banquet Room  
New Members Club  
Pinehurst Country Club
- CHAIRMAN: G. Patrick Henderson, M.D., Southern Pines
- PROGRAM CHAIRMAN: Walter R. Sabiston, M.D., Kinston

#### Scientific Session:

- SEPTO-COLUMELLAR NASAL TIP TECHNIQUE AND ITS APPLICATION  
Jack W. Thornton, M.D., Hickory
- PANENDOSCOPY — A NECESSITY IN THE PRE-OPERATIVE EVALUATION OF HEAD AND NECK CANCER PATIENTS  
W. Fred McGuirt, M.D., Winston-Salem
- EXPERIENCE WITH HEARING SYSTEMS  
William B. Costenbader, M.D., Asheville
- Garrett L. Denniston, M.A.
- POSTERIOR NECK DISSECTION  
Boyce Cole, M.D., Durham
- Samuel R. Fisher, M.D., Durham
- ENDOSCOPY  
George B. Ferguson, M.D., Durham
- (TO BE ANNOUNCED)  
W. Paul Biggers, M.D., Chapel Hill

#### Business Session:

- Election of Officers, Delegate and Alternate Delegate for 1981-82

#### SECTION ON PEDIATRICS

Friday, May 8, 1981

- 10:30 a.m.-5:00 p.m. ....Crystal Room
- CHAIRMAN: David T. Tayloe, M.D., Washington
- 10:30 a.m. — Liaison Committee Meeting — N.C. Pediatric Society

#### Scientific Session:

- 2:00 p.m.-5:00 p.m.
- PNEUMONIAS IN INFANTS  
Catherine M. Wilfert, M.D., Durham
- SINUSITIS  
Laura E. T. Gutman, M.D., Durham
- DIARRHEAS  
Samuel L. Katz, M.D., Durham
- PARASITES AMONG US  
Thomas E. Frothingham, M.D., Durham



**Business Session:**

Election of Officers, Delegate and Alternate Delegate for 1981-82

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**SECTION ON SURGERY**

Friday, May 8, 1981

12:30 p.m. .... Cardinal Ballroom

CHAIRMAN: Richard T. Myers, M.D., Winston-Salem

**Business Session:**

Election of Officers, Delegate and Alternate Delegate for 1981-82

(The Scientific portion of the Section on Surgery is being presented as the SURGICAL SESSION of the FIRST GENERAL SESSION on Friday, May 8, 1981, 9:00 a.m. in the Cardinal Ballroom)

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**SECTION ON ORTHOPAEDICS**

Friday, May 8, 1981

2:00 p.m.-4:00 p.m. .... Game Room

CHAIRMAN: Donald B. Reibel, M.D., Raleigh

SECRETARY: John W. Packer, M.D., Raleigh

2:00 p.m.-3:00 p.m. — SCIENTIFIC SESSION

3:00 p.m.-4:00 p.m. — BUSINESS SESSION: Election of Officers, Delegate and Alternate Delegate for 1981-82

5:00 p.m. — Cocktails — Poolside

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**SECTION ON OBSTETRICS & GYNECOLOGY**

Friday, May 8, 1981

2:00 p.m.-5:00 p.m. .... Cardinal Ballroom

CHAIRMAN: John R. Ashe, Jr., M.D., Concord

**Scientific Session:**

REPORT FROM THE MATERNAL HEALTH COMMITTEE OF THE NORTH CAROLINA MEDICAL SOCIETY

Robert G. Brame, M.D., Chairman, Greenville

REPORT FROM THE REGIONAL PERINATAL STANDARDS SUBCOMMITTEE

Robert G. Brame, M.D., Chairman, Greenville

REPORT FROM THE NORTH CAROLINA PERINATAL CARE PROGRAM

Richard R. Nugent, M.D., Lead Consultant, Raleigh

NORTH CAROLINA PERINATAL MORTALITY STUDY

W. Joseph May, M.D., Winston-Salem

MODEL REGIONAL AMBULATORY HIGH RISK PRENATAL CLINIC-LEVEL III

W. Joseph May, M.D., Winston-Salem

**ALPHA FETO-PROTEIN SCREENING PROGRAM**

Robert C. Cefalo, M.D., Director of Fetal Maternal Medicine, and A. Myron Johnson, M.D., Department of Pathology, UNC School of Medicine, Chapel Hill

**Business Session:**

Election of Officers, Delegate and Alternate Delegate for 1981-82

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**SECTION ON FAMILY PRACTICE**

Friday, May 8, 1981

2:00 p.m.-5:00 p.m. .... Azalea Bar

CHAIRMAN: Harry Summerlin, Jr., M.D., Asheville

PROGRAM CHAIRMAN: Hal Stuart, M.D., Elkin

**Scientific Session:**

Mini Workshop on Geriatrics

**Business Session:**

Election of Officers, Delegate and Alternate Delegate for 1981-82

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**SECTION ON INTERNAL MEDICINE**

Friday, May 8, 1981

3:00 p.m. .... Merion Cottage

CHAIRMAN: Robert S. Belk, M.D., Lenoir

**Business Session:**

Election of Officers, Delegate and Alternate Delegate for 1981-82

(The Scientific Program of the Section on Internal Medicine is presented at the MEDICAL SESSION, of the SECOND GENERAL SESSION, Saturday, May 9, 1981, 9:00 a.m., Cardinal Ballroom.)

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**SECTION ON PLASTIC AND RECONSTRUCTIVE SURGERY**

Saturday, May 9, 1981

8:00 a.m.-12:00 Noon .... Board Room

CHAIRMAN: Vartan A. Davidian, M.D., Raleigh

SECRETARY: Kelly Wallace, M.D., Greenville

**Scientific Session**

**Business Session:**

Election of Officers, Delegate and Alternate Delegate for 1981-82

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**SECTION ON PATHOLOGY**

Saturday, May 9, 1981

8:00 a.m.-12:00 Noon .... Azalea Bar

CHAIRMAN: A. Laurence Dee, M.D., Charlotte

**Scientific Session:**

**Business Session:**

Election of Officers, Delegate and Alternate Delegate for 1981-82

**JOINT MEETING  
SECTION ON RADIOLOGY**

**and  
SECTION ON NUCLEAR MEDICINE**

Saturday, May 9, 1981

8:30 a.m.-12:30 p.m. ....Meeting House  
MID PINES CLUB, Southern Pines

CHAIRMAN: Robert S. Lackey, M.D., Charlotte,  
Section on Radiology; Nat E. Watson, Jr.,  
M.D., Winston-Salem, Section on Nuclear  
Medicine

PROGRAM CHAIRMAN: Nuclear Medicine —  
William McCartney, M.D., Chapel Hill

**Scientific Session:**

(To be announced)

**Business Session:**

Election of Officers, Delegate and Alternate Dele-  
gate for each Section of the year 1981-82

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**SECTION ON DERMATOLOGY**

Saturday, May 9, 1981

9:00 a.m.-12:00 Noon .....Crystal Room

CHAIRMAN: John H. Hall, M.D., Greensboro  
SECRETARY-TREASURER: W. Harrison Turner,  
II, M.D., Greensboro

**Scientific Session:**

**CONTROVERSIES IN DERMATOLOGY**

John M. Knox, M.D., Professor and Chairman,  
Department of Dermatology, Baylor College of  
Medicine, Houston, Texas

**Business Session:**

Election of Officers, Delegate and Alternate Dele-  
gate for 1981-82

12:00 Noon — PICNIC — West Porch

**SECTION ON NEUROLOGICAL SURGERY**

Saturday, May 9, 1981

1:00 p.m.-5:00 p.m. ....Crystal Room

CHAIRMAN: William L. Pritchard, M.D., Charlotte

1:00 p.m. — LUNCHEON — Crystal Room

2:00 p.m.-3:30 p.m. — SCIENTIFIC SESSION

3:30 p.m.-5:00 p.m. — BUSINESS SESSION:

Election of Officers, Delegate and Alternate Del-  
egate for 1981-82

---

**SECTION ON ANESTHESIOLOGY**

Saturday, May 9, 1981

8:00 a.m.-1:00 p.m. ....PINE ROOM

CHAIRMAN: Vincent C. Andracchio, M.D., Rocky  
Mount

8:15 a.m.-8:30 a.m.—Registration

8:30 a.m.-9:45 a.m.—RATIONAL USE OF  
AROUSAL AGENTS

Raymond Roy, M.D., Assistant Professor of  
Anesthesia, Bowman Gray, Winston-Salem

9:50 a.m.-10:30 a.m.—NEW DEVELOPMENT IN  
THE USE OF MUSCLE RELAXANTS

Frederic M. Ramsey, M.D., Assistant Professor  
of Anesthesia, Bowman Gray, Winston-Salem

10:35 a.m.-11:35 a.m.—ANESTHESIA FOR  
OPHTHALMOLOGIC SURGERY

Charles McLesky, M.D., Assistant Professor of  
Anesthesia, Bowman Gray, Winston-Salem

12:00 Noon-12:15 p.m.—Coffee Break

12:15 p.m.-1:00 p.m.—Spring Meeting — LeRoy  
King, M.D., President, Presiding

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**SUNDAY, MAY 10, 1981**

9:00 a.m.-1:00 p.m. ....Dogwood Room

BOARD OF DIRECTORS' MEETING — North  
Carolina Academy of Family Physicians

## Classified Ads

**LOCUM TENENS WORK WANTED: THE MORE YOU KNOW ABOUT CHOICES, THE EASIER IT IS TO CHOOSE.** That's why CompHealth, the oldest, largest locum tenens organization in the United States, can help make choices easier for you. Any specialty can be covered including: F.P., I.M., Rad., Anes., and OB/GYN. With a large selection of reliable, qualified physicians to choose from, CompHealth provides physicians, hospitals, clinics and communities with dependable locum tenens coverage, allowing you to keep your practice covered without inconvenience or concern. Turn a difficult decision into an easy choice. Contact: COMPHEALTH, 175 West 200 South, Suite 2003, Salt Lake City, UT 84101 (801) 532-1200.

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**EDENTON** — Immediate opening for recent graduate in F.P. Guaranteed income plus bonus & fringe benefits. Need locum tenens July and August. D. O. Wright, M.D. (919) 482-2116.

**TEXAS — IMMEDIATE OPENINGS** in Dallas for Ophthalmologist, ENT, and Perinatologist; General Practitioners needed in Austin. Also excellent openings for Family Practitioners, Internists, Orthopaedic Surgeons, OB/GYN, Pedis, and Neurologist in cities with 5,000-65,000 population near metroplex areas. Write Texas Doctors Group, Box 177, Austin, Texas 78767 (595) 476-7129.

**PHYSICIAN ASSISTANTS** — Would a Physician Assistant be of benefit to your practice? The North Carolina Academy of Physicians' Assistants responds promptly to physician inquiries. Contact: Paul C. Hendrix, P.A.-C, Chairman, Employment Committee, 708 Duluth Street, Durham, North Carolina 27705. Telephone: (919) 684-6101.

**NORTH CAROLINA** — Family Practice/Emergency Medicine. Unique opportunity, immediate partnership available. Rapidly growing practice. Small hospital, rural area, two hours to Atlantic beaches. Starting from \$55,000 to \$60,000 guaranteed. Unlimited growth — excellent benefit package. Call or write about this excellent opportunity: Community Physicians, Inc. 113 Landmark Square, Virginia Beach, Virginia 23452 (804) 486-0844.

**VIRGINIA** — Unique opportunity, Emergency Medicine. Modern service. Immediate or delayed openings for career-oriented physicians, unlimited potential. Guaranteed income of \$55,000 to \$60,000 plus excellent benefits. For additional information contact: Community Physicians, Inc., 113 Landmark Square, Virginia Beach, Virginia 23452 (804) 486-0844.

**INTERNIST — NORTH CAROLINA** — An eight-man internal medicine private practice group in the Piedmont area of North Carolina is seeking a general internist for July, 1981. This is an excellent opportunity in a lovely progressive city of 170,000. Please address all replies to Mr. J. William Chappell, Business Manager, 338 North Elm Street, Suite 305, Greensboro, N.C. 27401 or call (919) 373-1379.

**MEDICAL PRACTICE** of 43 years, located on Main Street in small Western N.C. town for sale by retiring General Practitioner. Many diversified industries; good payroll. Temperate climate with recreational lake 15 minutes away and winter skiing only one hour away. Telephone: (704) 652-6251.

**KIAWAH ISLAND:** New, spacious home, three bedrooms, beautiful great room with lovely view overlooking lagoon; one block from oceanfront and golf course. \$700/week. Telephone: (704) 542-2641.

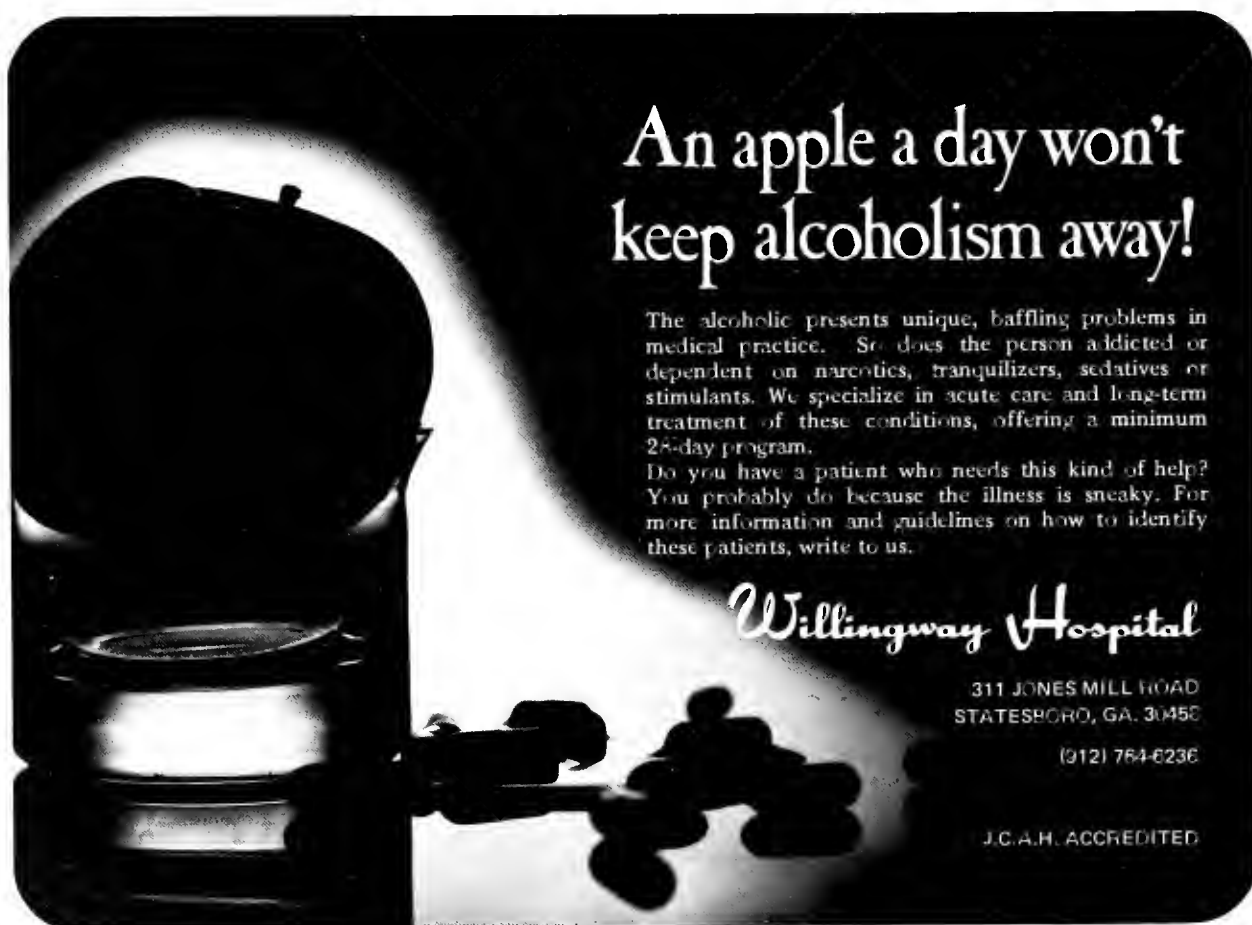
**BURDICK TREADMILL**, nearly new with EKG, cardioscope, and defibrillator — \$10,500. M. Donelson, Jr., M.D., 1035 Main Street, Danville, VA 24541. Office telephone (804) 792-5211, Home telephone (804) 791-2671.

**PEDIATRICIAN** seeks one or more locum tenens in North Carolina for period between July and December, 1981. Currently completing fellowship. Reply: NCMJ-2, P.O. Box 27167, Raleigh, NC 27611.

**WANTED — Family Practice Physician for Garner — Minutes from Wake Medical Center — Location, Equipment, and Financing already arranged — Just 5 minutes from Raleigh — Outstanding Opportunity — For more information — contact: Thomas H. Jones, P.O. Box 271, Garner, NC 27529, Phone: (919) 772-4737.**

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The alcoholic presents unique, baffling problems in medical practice. So does the person addicted or dependent on narcotics, tranquilizers, sedatives or stimulants. We specialize in acute care and long-term treatment of these conditions, offering a minimum 28-day program.

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# For recurrent attacks of urinary tract infection in women

## Bactrim™ DS Double Strength Tablets

Each tablet contains 160 mg trimethoprim and 800 mg sulfamethoxazole.

### Just one tablet b.i.d. for 10 to 14 days



- Action at urinary/vaginal/lower bowel sites helps eliminate reservoirs of infecting organisms
- Distinctive antibacterial action plus wide spectrum helps eradicate recurrent UTI
- Low incidence of bacterial resistance in community practice

■ Convenient *b.i.d.* dosage provides day-and-night antibacterial control

■ Contraindicated during pregnancy and the nursing period. During therapy, maintain adequate fluid intake; perform CBC's and urinalyses with microscopic examination.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications and Usage:** For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, *Proteus vulgaris*, *Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. Note: The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

**Also for the treatment of documented *Pneumocystis carinii* pneumonitis. To date, this drug has been tested only in patients 9 months to 16 years of age who were immunosuppressed by cancer therapy.**

The recommended quantitative disc susceptibility method (Federal Register, 37:20527-20529, 1972) may be used to estimate bacterial susceptibility to Bactrim. A laboratory report of "Susceptible to trimethoprim-sulfamethoxazole" indicates an infection likely to respond to Bactrim therapy. If infection is confined to the urine, "Intermediate susceptibility" also indicates a likely response. "Resistant" indicates that response is unlikely.

**Contraindications:** Hypersensitivity to trimethoprim or sulfonamides; pregnancy; nursing mothers; infants less than two months of age.

**Warnings:** Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

**Precautions:** Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function.

**Adverse Reactions:** All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. **Blood dyscrasias:** Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. **Allergic reactions:** Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. **Gastrointestinal reactions:** Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. **CNS reactions:** Headache,

peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. **Miscellaneous reactions:** Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

**Dosage: Not recommended for infants less than two months of age.**

**Urinary Tract Infections:** Usual adult dosage—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days.

Recommended dosage for children—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. A guide follows:

Children two months of age or older

Weight		Dose—every 12 hours	
lbs	kgs	Teaspoonfuls	Tablets
20	9	1 teasp. (5 ml)	½ tablet
40	18	2 teasp. (10 ml)	1 tablet
60	27	3 teasp. (15 ml)	1½ tablets
80	36	4 teasp. (20 ml)	2 tablets or 1 DS tablet

For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	½ the usual regimen
Below 15	Use not recommended

***Pneumocystis carinii* pneumonitis:** Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

**Supplied:** Double Strength (DS) tablets, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose® packages of 100. Tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40, available singly and in trays of 10. Oral suspension, containing in each teaspoonful (5 ml) the equivalent of 40 mg trimethoprim and 200 mg sulfamethoxazole, fruit-licorice flavored—bottles of 16 oz (1 pint).

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Division of Hoffmann-La Roche Inc.  
Nutley, New Jersey 07110

Please see back cover.

the next attack of cystitis may require

# the Bactrim system counterattack



ROCHE

Bactrim has shown high clinical effectiveness in recurrent cystitis as a result of its wide spectrum and distinctive antimicrobial action in the urinary, vaginal and lower intestinal tracts.

The probability of recurrent urinary tract infection appears to be enhanced by the establishment of large numbers of *E. coli* or other urinary pathogens on the vaginal introitus. The trimethoprim component of

Bactrim diffuses into vaginal fluid in effective concentrations, thus combating migration of pathogens into the urethra.

Studies have shown that Bactrim acts against *Enterobacteriaceae* in the bowel without the emergence of resistant organisms. Thus, Bactrim reduces the risk of intraluminal colonization by fecal uropathogens. It has no significant effect on other normal, necessary intestinal flora.

## Bactrim fights uropathogens in the urinary tract/vaginal tract/lower intestinal tract

Please see reverse side for summary of product information.

# North Carolina

## MEDICAL JOURNAL

The Official Journal of the NORTH CAROLINA MEDICAL SOCIETY □ □ □ April 1981, Vol. 42, No. 4

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**1981 Annual Sessions: May 7-10,**  
**Pinehurst**

**1981 Committee Conclave: Sept. 23-27,**  
**Southern Pines**

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# Feelings vs.

*Some people feel that I am misused and overused and that I'm prescribed too often and for too many kinds of problems.*

The FACT is that approximately eight million people, or about 5 percent of the U.S. adult population, will use me during the current year. By contrast, the national health examination survey (1971-1975) found that 25 percent of the U.S. adult population experiences moderate to severe psychological distress. Additionally, studies of patient attitudes revealed that most patients have realistic views regarding the limitations of tranquilizers and a strong conservatism about their use, as evidenced by a general tendency to decrease intake over time. Finally, a six-year, large-scale, carefully conducted national survey showed that the great majority of physicians appropriately prescribe tranquilizers.

*Some people feel that patients being treated with anxiolytic drugs are "weak," can't tolerate the anxieties of normal daily living, and should be able to resolve their problems on their own without the help of medication.*

The FACT is that while most people can withstand normal, everyday anxieties, some people experience excessive and persistent levels of anxiety due to personal or clinical problems. An extensive national survey concluded that Americans who do use tranquilizers have substantial

# Facts

justification as evidenced by their high levels of anxiety. It was further noted that antianxiety drugs are not usually prescribed for trivial, transient emotional problems.

*Some people feel afraid of me because of the stories they've heard about my being harmful and having the potential to produce physical dependence.*

The FACT is that there are thousands of references in the medical literature documenting my efficacy and safety. Extensive and painstakingly thorough studies of toxicological data conclude that I am one of the safest types of psychotropic drugs available. Moreover, I do not cause physical dependence if the recommended dosage and therapeutic regimen are followed under careful physician supervision. However, I can produce dependence if patients do not follow their physicians' directions and take me for prolonged periods, at dosages that exceed the therapeutic range. Patients for whom I have been prescribed should be cautious about their use of alcohol because an additive effect may result.

*Many of the most knowledgeable people feel that I became the No. 1 prescribed medication in America because no other tranquilizer has been proven more effective. Or safer.*

The FACT is they are right.

For a brief summary of product information on Valium (diazepam/Roche) ®, please see the following page. Valium is available as 2-mg, 5-mg and 10-mg scored tablets.

# Valium® diazepam/Roche

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Management of anxiety disorders, or short-term relief of symptoms of anxiety, symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal, adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication, abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

**Use in Pregnancy:** Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other anti-depressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported, should these occur, discontinue drug. Isolated reports of neutropenia, jaundice, periodic blood counts and liver function tests advisable during long-term therapy.

**Dosage:** Individualize for maximum beneficial effect. **Adults:** Anxiety disorders, symptoms of anxiety, 2 to 10 mg b.i.d. to q.i.d., alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed, adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d., adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. **Geriatric or debilitated patients:** 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) **Children:** 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

**Supplied:** Valium® (diazepam/Roche) Tablets, 2 mg, 5 mg and 10 mg—bottles of 100 and 500, Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10. Prescription Paks of 50, available in trays of 10.

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Nutley, New Jersey 07110

## NORTH CAROLINA MEDICAL SOCIETY MEETINGS

# PLAN AHEAD

### ANNUAL MEETING

May 7-10, 1981

Pinehurst Hotel  
Pinehurst, N.C.

Opportunity to complete  
up to 25 hours of  
Continuing Medical  
Education credit.

### COMMITTEE CONCLAVE

September 23-27, 1981

Mid Pines Club  
Southern Pines, N.C.

# NORTH CAROLINA MEDICAL JOURNAL

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# Effective anti-arthritic activity with fewer G.I. side-effects than with plain aspirin

70.8% to 87.5% less gastric intolerance  
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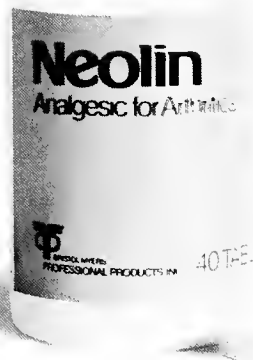
1. Four Gastric Tolerance Studies: crossover design; 34, 50, 50, 50 subjects; dosage—2 five grain tablets q.i.d. over 14 days for each drug. Some subjects participated in more than one trial.
2. G.I. Blood Loss Study: crossover design; 15 subjects; dosage—2 five-grain tablets q.i.d. over 7 days for each drug. Leonards, J.R. and Levy, G.: Effect of pharmaceutical formulation on gastrointestinal bleeding from aspirin tablets, *Arch. Intern. Med.* 129: 457, 1972. (Neolin is designated as Product A in this study).
3. Leonards, J.R. and Levy, G.: Biopharmaceutical aspects of aspirin-induced gastrointestinal blood loss in man, *J. Pharm. Sci.* 58:1277, 1969.
4. Salicylate Blood Level Study: crossover design; 9 subjects. Leonards, J.R. and Levy, G.: Effect of pharmaceutical formulation on gastrointestinal bleeding from aspirin tablets, *Arch. Intern. Med.* 129:457, 1972.
5. Bristol-Myers test method designed to evaluate the acid-neutralizing capacity of buffered aspirin preparations: 2 five-grain Neolin tablets; 2 Ascriptin tablets; 2 Ascriptin A/D tablets. Each product stirred for 15 minutes in 50 cc. of 0.1N HCl, at 25 °C. and back titrated with NaOH to pH 2.8.

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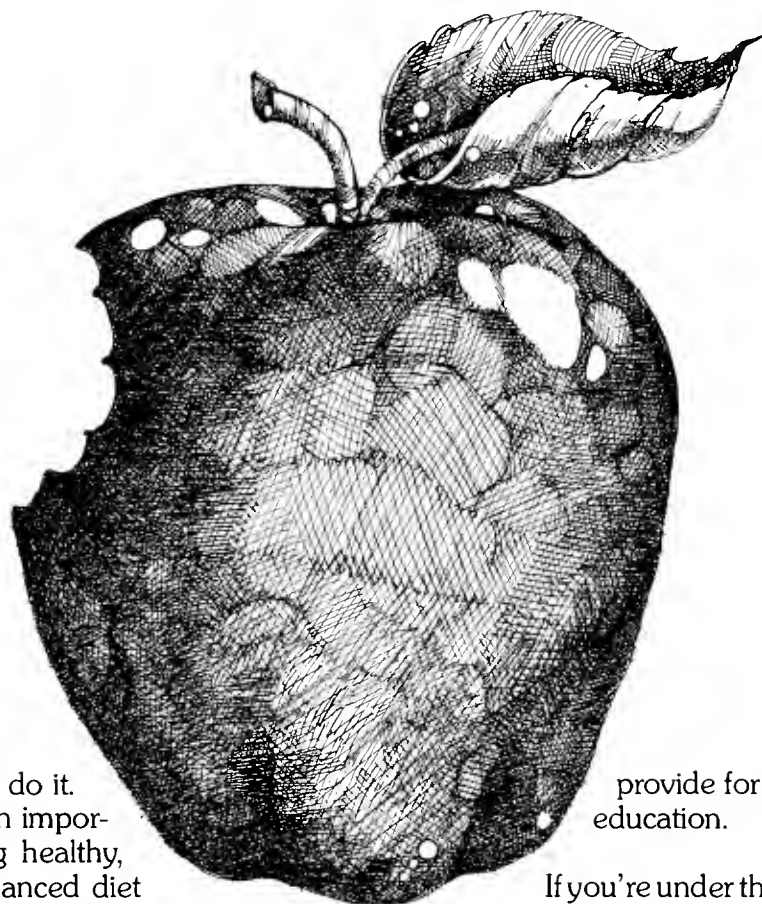
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# In Hypertension\*...When You Need to Conserve K<sup>+</sup>

## Every Step of the Way



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**ADD BETA-BLOCKER, CNS  
INHIBITOR OR RESERPINE**

**EFFECTIVE STEP 1  
DIURETIC THERAPY<sup>†</sup>** (when the  
combination represents previously titrated dosage)

Each capsule  
contains 50 mg. of  
Dyazide<sup>®</sup> (brand of triamterene)  
and 25 mg. of hydrochlorothiazide.

<sup>†</sup>Step 1 usually consists of an initial phase (a diuretic alone), a titration phase (dosage adjustment and/or addition of a K<sup>+</sup> supplement or K<sup>+</sup>-sparing agent) and a maintenance phase (a diuretic alone or in combination with a K<sup>+</sup> supplement or K<sup>+</sup>-sparing agent).

### Serum K<sup>+</sup> and BUN should be checked periodically (see Warnings).

Before prescribing, see complete prescribing information in SK&F Co. literature or PDR. A brief summary follows:

#### WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

**Contraindications:** Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia, or existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-related drugs.

**Warnings:** Do not use potassium supplements, or otherwise, unless hypokalemia develops. Potassium intake of potassium is markedly impaired. If supplementary potassium is needed, potassium should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. More likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodic serum K<sup>+</sup> levels should be determined. If hyperkalemia develops, substitute a thiazide alone. Do not K<sup>+</sup> intake. Associated widened QRS complex or arrhythmia requires prompt additional therapy. Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, throm-

bocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

**Precautions:** Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K<sup>+</sup> frequently; both can cause K<sup>+</sup> retention and elevated serum K<sup>+</sup>. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Anti-hypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with

possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia, although uncommon, has been reported. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

**Adverse Reactions:** Muscle cramps, weakness, dizziness, headache, dry mouth, anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components.

**Supplied:** Bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

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Carolina, P.R. 00630

# Motrin<sup>®</sup> vs aspirin w/codeine..

(ibuprofen)



# compare the analgesic effect

A *Motrin* 400 mg dose relieved postsurgical dental pain as effectively as a combination of 650 mg aspirin and 60 mg codeine (two aspirin-with-codeine No. 3 tablets) in a study of 129 patients.

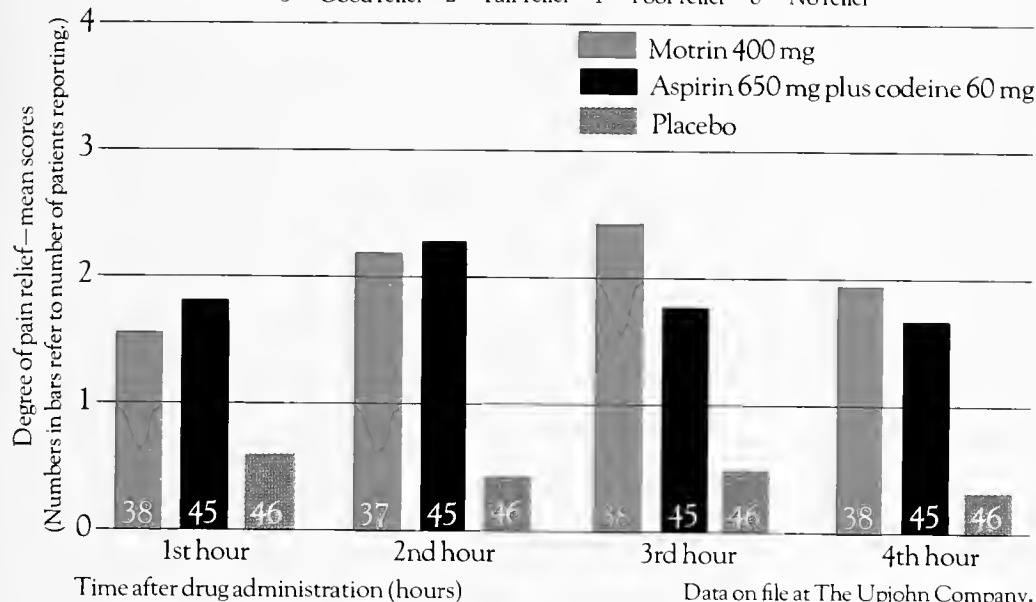
In this double-blind, placebo-controlled, randomized study, no statistically significant difference in relief of pain was noted at 1, 2, and 4 hours between the *Motrin* and aspirin-with-codeine groups... with *Motrin* being significantly more effective ( $p = 0.03$ ) at the three-hour interval.

Active treatment was significantly more effective ( $p < 0.0001$ ) than placebo at all time intervals.

## Comparison of pain relief

### *Motrin* vs aspirin-codeine combination

4 = Excellent relief 3 = Good relief 2 = Fair relief 1 = Poor relief 0 = No relief



Data on file at The Upjohn Company.

One tablet q4-6h prn

For relief of mild to moderate pain:

**Motrin<sup>®</sup> 400mg** TABLETS  
ibuprofen, Upjohn

- Not a narcotic • Not addictive • Not habit forming • Nonscheduled
- Acts peripherally • Relieves pain rapidly • Relieves inflammation • Indicated in acute and chronic pain • Well tolerated (The most common side effect with *Motrin* is mild gastrointestinal disturbance.)

Please turn the page for a brief summary of prescribing information.

**Upjohn**



# Motrin® (ibuprofen) now proved an effective analgesic for mild to moderate pain

**Motrin® Tablets** (ibuprofen, Upjohn)

**Indications and Usage:** Relief of mild to moderate pain.

Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in long-term management. Safety and efficacy have not been established in Functional Class IV rheumatoid arthritis.

**Contraindications:** Individuals hypersensitive to it, or with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory agents (see WARNINGS).

**Warnings:** Anaphylactoid reactions have occurred in patients with aspirin hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Ulceration, perforation, and bleeding may end fatally. An association has not been established. Motrin should be given under close supervision to patients with a history of upper gastrointestinal tract disease, only after consulting ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be tried. If Motrin must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

**Precautions:** Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue Motrin and the patient should have an ophthalmologic examination, including central visual fields.

Fluid retention and edema have been associated with Motrin; use with caution in patients with a history of cardiac decompensation.

Motrin can inhibit platelet aggregation and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy should have therapy tapered slowly when Motrin is added.

**Drug interactions.** *Aspirin:* Used concomitantly may decrease Motrin blood levels.

*Coumarin:* Bleeding has been reported in patients taking Motrin and coumarin.

**Pregnancy and nursing mothers:** Motrin should not be taken during pregnancy nor by nursing mothers.

## Adverse Reactions

### Incidence greater than 1%

**Gastrointestinal:** The most frequent type of adverse reaction occurring with Motrin is gastrointestinal (4% to 16%). This includes nausea,\* epigastric pain,\* heartburn,\* diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the GI tract (bloating and flatulence). **Central Nervous System:** Dizziness,\* headache, nervousness. **Dermatologic:** Rash\* (including maculopapular type), pruritus. **Special Senses:** Tinnitus. **Metabolic:** Decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

\*Incidence 3% to 9%.

### Incidence less than 1 in 100

**Gastrointestinal:** Upper GI ulcer with bleeding and/or perforation, hemorrhage, melena. **Central Nervous System:** Depression, insomnia. **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme. **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure. **Special Senses:** Amblyopia (see PRECAUTIONS). **Hematologic:** Leukopenia, decreased hemoglobin and hematocrit.

### Causal relationship unknown

**Gastrointestinal:** Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities. **Dermatologic:** Alopecia, Stevens-Johnson syndrome. **Special Senses:** Conjunctivitis, diplopia, optic neuritis. **Hematologic:** Hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** Fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** Gynecomastia, hypoglycemia. **Cardiovascular:** Arrhythmias. **Renal:** Decreased creatinine clearance, polyuria, azotemia.

**Overdosage:** In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine, so alkaline diuresis may be beneficial.

**Dosage and Administration:** Rheumatoid arthritis and osteoarthritis, including flares of chronic disease: Suggested dosage is 300, 400, or 600 mg t.i.d. or q.i.d. Mild to moderate pain: 400 mg every 4 to 6 hours as necessary for relief of pain. Do not exceed 2400 mg per day.

**Caution:** Federal law prohibits dispensing without prescription.

For additional product information, see your Upjohn representative or consult the package insert.

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MARCH 1981

# WHY I'M A UNITED WAY VOLUNTEER



**STEPHEN GRAHAM**

**Home:** Seattle, Washington

**Career:** Attorney

**Age:** 29

**Married:** One daughter

**Interests:** Hiking, writing, cartooning, bicycling and volunteering for United Way

"Because there's more to my life than just me.

"Like being with my family. Hiking along the timberline. And getting involved in my community.

"Volunteering for United Way adds another dimension to my life. I'm putting my skills to work for the benefit of the entire community. And I'm meeting all kinds of people who are doing the same.

"Most important of all, I'm learning more about human care needs. And how—as a United Way volunteer—I can make a difference here in Seattle. It's a valuable lesson in leadership.

"By helping shape my community's future, through United Way, I'm more than just living my life. I'm fulfilling it."



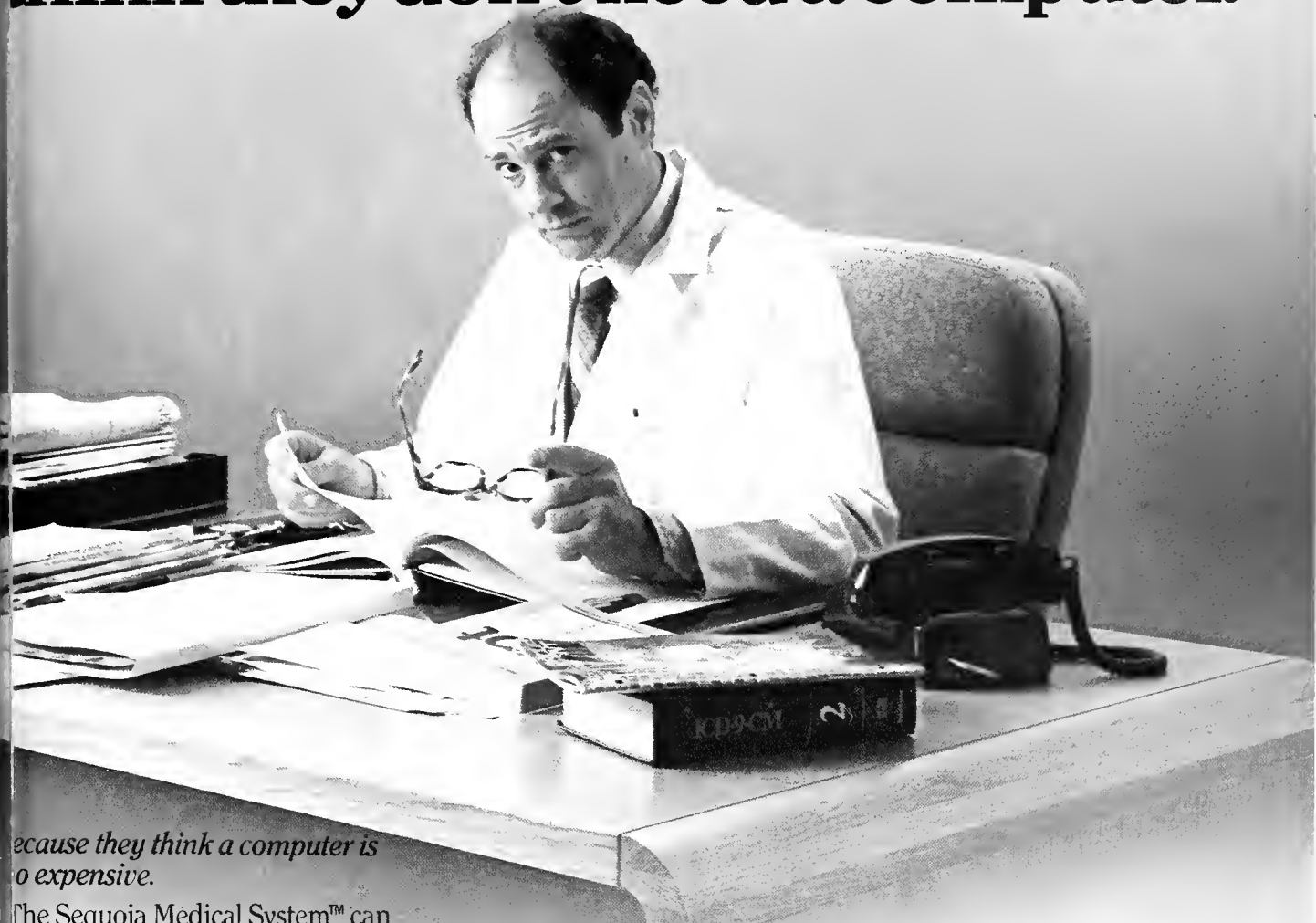
**Thanks to you...  
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## **NEOSPORIN® Ointment** (polymyxin B-bacitracin-neomycin)

Each gram contains: Aerosporin® (Polymyxin B Sulfate) 5,000 units, bacitracin zinc 400 units, neomycin sulfate 5 mg (equivalent to 3.5 mg neomycin base); special white petrolatum qs; in tubes of 1 oz and 1/2 oz and 1/32 oz (approx.) foil packets.

**works just as well in their homes.**

- It's effective therapy for abrasions, lacerations, open wounds, primary pyodermas, secondarily infected dermatoses.
- It provides broad-spectrum overlapping antibacterial effectiveness against common susceptible pathogens, including staph and strep.



- It helps prevent topical infections, and treats those that have already started.
- It contains three antibiotics that are rarely used systemically.
- It is convenient to recommend without a prescription.

**NEOSPORIN® Ointment—for the office, for the home.**  
(polymyxin B-bacitracin-neomycin)

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**WARNING:** Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

When using neomycin-containing products to control secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as a failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

**PRECAUTIONS:** As with other antibacterial preparations, prolonged use may result in overgrowth of susceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

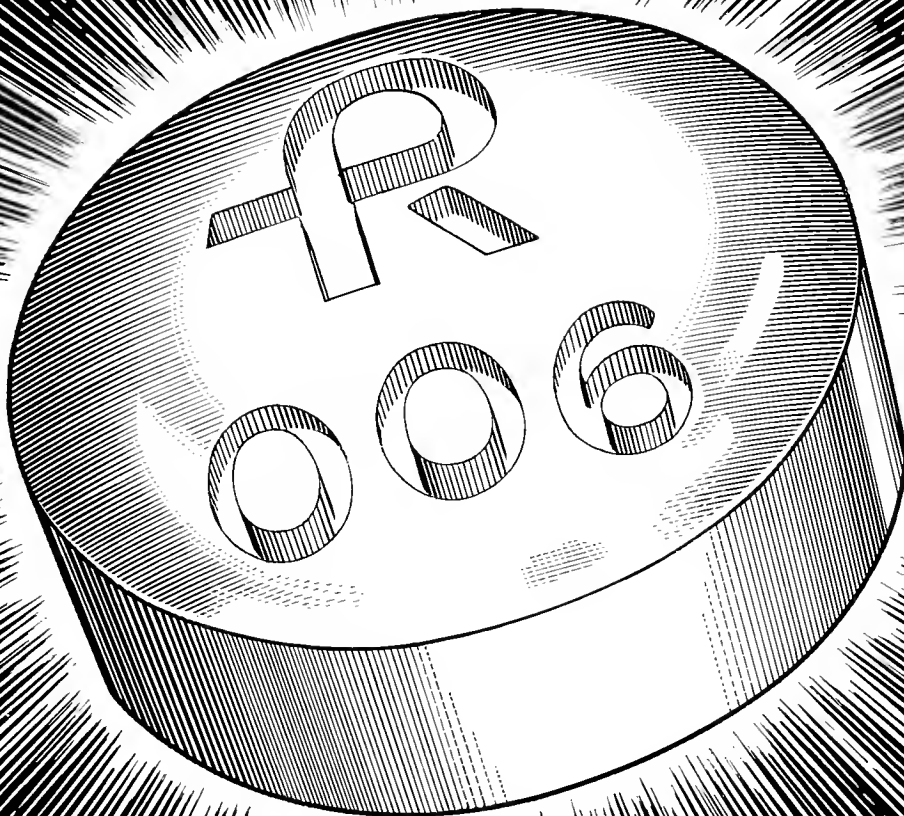
**ADVERSE REACTIONS:** Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section). Complete literature available on request from Professional Services Dept. PML.



**Burroughs Wellcome Co.**  
Research Triangle Park  
North Carolina 27709

# Will your generics need a lawyer?

Beware! Many state laws, now in effect or proposed, require the identification of product, strength and manufacturer on each solid doseform to be legal for generic substitution. If you dispense unidentified drugs, after effective date of legislation, you're dispensing in violation of such laws.



## Purepac generics coded for legal substitution.

Purepac's coding system, to be phased in during 1981, will meet every state's legal requirements. Tablets and capsules will be imprinted with a code number and Purepac's symbol. This symbol **R** identifies a Purepac product. The code number designates the name of the product and its strength. For rapid identification, these code numbers will be listed in Purepac's catalog and the *Physician's Desk Reference*. This system provides instant identification which can prove useful in saving lives from accidental overdose.

### Watch out for serious offenders.

Will your generic pharmaceutical supplier be able to meet all identification requirements—especially if that

supplier is not a manufacturer? Products not properly coded then violate the law! And by dispensing them, you're substituting illegally. And taking big risks.

Don't take chances. Be sure you're dispensing a legal generic. Be sure it's Purepac!



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**In the treatment of impetigo—**

- **100% cure rate with  
Tegopen® (cloxacillin sodium)**

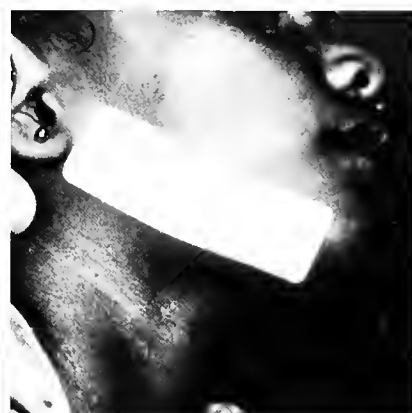
- **only a 60% cure rate with penicillin V-K**



**As seen on  
admission**



**After one week  
of penicillin V-K  
therapy**



**Two weeks after  
initiation of  
TEGOPEN therapy**

Treatment failure was judged to have occurred when lesions increased in size and/or number during the initial week of treatment with penicillin V-K. No treatment failures occurred with Tegopen.

\*Data on file, Bristol Laboratories.

#### Brief Summary of Prescribing Information

**TEGOPEN\***  
(cloxacillin sodium)  
Capsules and Oral Solution

For complete information, consult Official Package Circular

(12) 9/11/75

#### INDICATIONS:

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected. (See Important Note below.)

Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

#### IMPORTANT NOTE

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital. For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing. Such strains of staphylococci have been capable of producing serious disease, in some instances resulting in fatality. Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

#### CONTRAINDICATIONS:

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.

## RESULTS OF ORAL THERAPY revealed a high percentage of treatment failures with penicillin V potassium, but no failures with Tegopen.

		Given Tegopen® (cloxacillin sodium)	Given penicillin V-K
<b><i>Staphylococcus aureus</i></b>	(78 patients)	39	39
Returned to clinic at one week .....		29†	38†
Treatment failure at one week .....		0	18 (47.4%)
<b><i>Staphylococcus aureus</i> and <i>Streptococcus pyogenes</i></b>	(9 patients)	4	5
Returned to clinic at one week .....		4	5
Treatment failure at one week .....		0	2 (40%)
<b>No initial bacterial growth</b>	(14 patients)	9	5
All 14 healed, regardless of which antibiotic was administered.			
<b>Beta-hemolytic <i>Streptococcus</i></b>	(1 patient)	0	1
<b>TOTALS:</b>	<b>102 patients</b>	<b>52 patients</b>	<b>50 patients</b>

†Eleven patients did not return for their one-week checkup. These were all called by telephone, and their families reported

the lesions had healed. One patient was dropped from the study, early, because of adverse reaction to medication.

### STUDY: DESCRIPTION/PROTOCOL

- 102 nonselected subjects, with initial bacteriology as follows: 77% *Staphylococcus aureus*, 9% mixed *Staphylococcus aureus* and *Streptococcus pyogenes*, and 1% beta-hemolytic *Streptococcus*.†
- All patients were given randomized therapy—Tegopen capsules or oral solution, or penicillin V-K tablets or oral solution, in recommended dosages according to body weight.

- All patients were evaluated after one week's therapy. If there was no improvement, therapy was switched to the other antibiotic. The "other antibiotic" proved to be Tegopen 100% of the time because no treatment failures had occurred with Tegopen.
- A final assessment of progress was made two weeks after initiation of Tegopen therapy.

†The remainder, to equal 100%, consisted of 14 patients (13%) who exhibited no initial bacterial growth. These 14 were all healed, whether given Tegopen or penicillin V-K.

# TEGOPEN®

## (cloxacillin sodium)

**—effective therapy for staph infections  
of the skin and skin structures**

#### WARNING:

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines, and corticosteroids.

Safety for use in pregnancy has not been established.

#### PRECAUTIONS:

The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy, appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

#### ADVERSE REACTIONS:

Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose

stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

#### USUAL DOSAGE:

Adults: 250 mg. q 6h.

Children: 50 mg./Kg./day in equally divided doses q 6h. Children weighing more than 20 Kg should be given the adult dose. Administer on empty stomach for maximum absorption.

**N.B.:** INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR ACUTE GLOMERULONEPHRITIS.

#### SUPPLIED:

Capsules—250 mg. in bottles of 100 500 mg. in bottles of 100.  
Oral Solution—125 mg./5 ml. in 100 ml. and 200 ml. bottles

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# An added complication... in the treatment of bacterial bronchitis\*



**el Summary.**  
Consult the package literature for prescribing information.

**ications and Usage:** Cefaclor\* (cefaclor, Lilly) is indicated in the treatment of the following infections caused by susceptible strains of the designated microorganisms.

**Lower respiratory infections,** including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci). Appropriate culture and susceptibility studies should be performed to determine susceptibility of causative organism to Cefaclor.

**Contraindication:** Cefaclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

**Warnings:** IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE REPORTS IN WHICH PATIENTS HAVE HAD REACTIONS TO BOTH DRUG CLASSES (INCLUDING ANAPHYLAXIS AFTER THERAPEUTIC USE).

Antibiotics, including Cefaclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

**Precautions:** If an allergic reaction to cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., antihistamines, anticholinergics, or corticosteroids. Prolonged use of cefaclor may result in the growth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In allologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs testing of newborns.

Since mothers have received cephalosporin antibiotics during lactation, it should be recognized that a positive Coombs test may be due to the drug.

Cefaclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended as a result of administration of Cefaclor, a false-positive reaction for glucose in the urine may occur. It has been observed with Benedict's and Fehling's solutions and also with Clinistest® tablets but not with Tape® (Glucose Enzymatic Test Strip, USP, Lilly). **Usage in Pregnancy:** Although no teratogenic or fertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. Benefits of the drug in pregnant women should be weighed against a possible risk to the fetus. **Usage in Infancy:** Safety of this product for use in infants less than one month of age has not been established.

**Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis\*—are sensitive to treatment with Cefaclor.<sup>1-6</sup>**

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Cefaclor.<sup>7</sup>

## Cefaclor®

### cefaclor

Pulvules®, 250 and 500 mg

**Adverse Reactions:** Adverse effects considered related to cefaclor therapy are uncommon and are listed below.

**Gastrointestinal symptoms** occur in about 2-5 percent of patients and include diarrhea (1 in 70) and nausea and vomiting (1 in 90).

**Hypersensitivity reactions** have been reported in about 1-5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occur in less than 1 in 200 patients.

Cases of serum-sickness-like reactions, including the above skin manifestations, fever, and arthralgia/arthritis, have been reported. Anaphylaxis has also been reported.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

**Causal Relationship Uncertain:** Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

**Hepatic:** Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

**Hematopoietic:** Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

**Renal:** Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[102300P]

\*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.

**Note:** Cefaclor\* (cefaclor) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

#### References

1. Antimicrob. Agents Chemother. 9: 91, 1975.
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7. Data on file. Eli Lilly and Company.
8. Principles and Practice of Infectious Diseases (edited by G. L. Mandell, R. G. Douglas, Jr., and J. E. Bennett), p. 487. New York: John Wiley & Sons, 1979.



Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285  
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## **HIGHLIGHTS:**

- **HOUSE OF DELEGATES**  
Thursday, May 7—10:00 a.m. (First Session)  
Saturday, May 9—2:00 p.m. (Second Session)
- **GENERAL SESSIONS**  
Friday, May 8—9:00 a.m.-12:30 p.m.  
Saturday, May 9—9:00 a.m.-12:30 p.m.
- **SPECIALTY SECTION MEETINGS**
- **ALUMNI LUNCHEONS AND DINNERS**
- **TECHNICAL EXHIBITS**
- **PRESIDENT'S DINNER AND  
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# A NEW ADMINISTRATION -- A NEW CHALLENGE

AT THE AMERICAN MEDICAL ASSOCIATION  
WE'RE INVOLVED IN MEETING  
THE IMPORTANT CHALLENGES AND  
RESPONSIBILITIES OF THE 80's.  
This is the third in a series of reports on  
major issues facing the medical profession. The purpose is to  
inform physicians and medical students on what the AMA is  
doing, on behalf of the profession and the public, to influence  
decisions that will affect health care in the next decade and beyond.

The conservative swing in the 1980 federal elections is bound to change the perspective on major health-care issues—in Congress as well as in the Administration. BUT . . . the issues will persist, and their disposition cannot be taken for granted.

So for you as a physician or medical student, what happens in the nation's capital will remain an urgent concern.

*Cost of care* will remain a key issue, and a pervasive one. Industry and business—which bulk large in the conservative constituency—are up in arms over the cost rise in employee health benefits.

While the conservative credo is anti-regulation, there's this to consider: If taxes are to be cut (as promised) and defense spending is to be increased (as promised), any balancing of the federal budget (as promised) could demand cost controls on health programs.

Here are some other matters to think about:

- *Funding for HHS*—the Department of Health and Human Services. In the prospective budget-tightening, how much money would be available for health programs other than "entitlement" programs (such as Medicare/Medicaid) that have to be paid for?
- *Health planning*. President Reagan called for an end to the federal involvement in health planning (a position also taken by the AMA House of Delegates). Will Congress go along?
- *National Health Insurance*. Any effectual move for NHI presumably would stress catastrophic coverage financed primarily through the private sector of the economy. To restrain costs, would there also be

features aimed at intensifying competition among health insurers and among health-care providers?

- *HMOs*—Health Maintenance Organizations. A call for intensified competition in the health-care industry could enhance the status of HMOs as a competitive vehicle. The government might assist them through tax benefits or pressure on employers to offer HMO coverage. (The AMA wants the government to be strictly neutral toward the various modes of health-care delivery—and leave any preference to the consumer.)
- *PSRO* (Professional Standards Review Organizations): The prevailing sentiment in top circles of the new Administration points to an anti-PSRO stance as part of their anti-regulation stance. What alternatives, if any, might Congress consider?
- *Medical education and manpower*. What would general budget-tightening leave for federal funding of medical schools, medical training, and the National Health Service Corps? Particularly in view of the physician-surplus forecasts that emanated from the Carter Administration.

To sum up, the basic directions in Washington, D.C., during the next four years do not necessarily add up to a clear and trouble-free future for the medical profession and patient care.

Only the AMA can give coherence and cohesion to your profession's ability to deal with the prospect. The Association has 43 personnel in Washington and Chicago whose activities include legislative research and analysis, preparation of testimony and other comment to Congress and the Administration, drafting of legislation, or lobbying. The fiscal-1981 budget for their activities totals almost \$3 million.

You need their expertise and effort. To sustain and advance their activities, the AMA needs additional membership, including yours. The current membership (230,000) carries us so far; yours would carry us further.

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**F-E-P CREME® • SU-TON® • TWIN-K® • TWIN-K-CI™**



**For the Majority of  
Steroid-Responsive Dermatoses\*  
Seen in Family Practice**

## F-E-P CREME®

(Iodochlorhydroxyquin—Pramoxine HCl—Hydrocortisone)

### The 4 in 1 Corticosteroid Cream

Anti-inflammatory, antifungal, antibacterial actions, and, uniquely, a topical anesthetic for immediate relief of the itching or burning that frequently accompanies skin problems. One size (½ ounce), one strength for ease of prescription.

\*This drug has been evaluated as possibly effective for these indications.  
See prescribing information on last page of this advertisement.

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### Liquid Tonic

A pleasant tasting prescription tonic containing iron, vitamins, minerals, an analeptic and 18% alcohol. Ideal for those who may benefit from vitamin deficiency prevention. Just one tablespoon before each meal.

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Choline	10%
Inositol	5%
Manganese (as Manganese Sulfate)	1%
Magnesium (as Magnesium Sulfate)	1%
Zinc (as Zinc Sulfate)	1%
Iron (as Ferric Pyrophosphate, Soluble)	2%
Alcohol	18%

See prescribing information on last page of this advertisement.





## For Potassium Supplementation Improved Compliance...

# TWIN-K®

Each 15 ml supplies 20 mEq of potassium ions as a combination of potassium gluconate and potassium citrate in a sorbitol and saccharin solution.

- The good tasting potassium supplement
- Designed for prophylactic and therapeutic use with diuretics and adrenocorticoids.
- Pleasant taste and convenient dosage aid patient compliance.

The organic salt of potassium can be given as a liquid without producing significant gastric symptoms and without an untoward effect on the mucosa of the small intestine.<sup>1</sup>

<sup>1</sup>Worthington-McDermott, Textbook of Medicine, 15th Ed. 1979, W.B. Saunders Co., Philadelphia, page 1959.

## In Cases with Chloride Deficiency...

# TWIN-K-CI™

Each 15 ml supplies 15 mEq of potassium ions and 4 mEq of chloride ions as a combination of potassium gluconate, potassium citrate, and ammonium chloride in a sorbitol and saccharin solution.

The good tasting potassium supplement with chloride

- In hypokalemic hypochloremic alkalosis, chloride ions are required. Twin-K-CI is specially formulated to be a good tasting chloride containing potassium supplement.
- Contains no potassium chloride. Twin-K-CI is a carefully balanced combination of organic potassium salts plus ammonium chloride.
- In hypochloremic patients, potassium should be provided as the chloride salt, or chloride ion must be made available in some other form, such as ammonium chloride or sodium chloride.<sup>1</sup>

See prescribing information on last page of this advertisement.





## F-E-P CREME

### DESCRIPTION

F-E-P Creme is a topical water soluble anti-inflammatory, anesthetic preparation intended for treatment of various inflammatory skin disorders. The drug contains the following active ingredients:

Iodochlorohydroxyquin...	3.0%
Pramoxine Hydrochloride	0.5%
Hydrocortisone	1.0%

### INDICATIONS AND USAGE

Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the indications as follows: "Possibly" effective: Contact or atopic dermatitis; impetiginized eczema; nummular eczema; infantile eczema; endogenous chronic infectious dermatitis; stasis dermatitis; pyoderma; nuchal eczema and chronic eczematoid otitis externa; acne urtica; localized or disseminated neurodermatitis; lichen simplex chronicus; anogenital pruritus (vulvae, scroti, ani); folliculitis; bacterial dermatoses; mycotic dermatoses such as tinea (capitis, cruris corporis, pedis); moniliasis; intertrigo. Final classification of the less-than-effective indications requires further investigation.

Pramoxine Hydrochloride promptly relieves pain and itch. This compound may be used safely on the skin of those patients sensitive to the "caine" type local anesthetics.

### CONTRAINDICATIONS

Hypersensitivity to F-E-P Creme, or any of its ingredients or related compounds; lesions of the eye; tuberculosis of the skin; most viral skin lesions (including herpes simplex, vaccinia and varicella).

### WARNINGS

This product is not for ophthalmic use.

In the presence of systemic infections, appropriate antibiotics should be used.

### USE IN PREGNANCY

Topical steroids have not been reported to have an adverse effect on pregnancy. However, fetal abnormalities have been produced in pregnant laboratory animals that have been exposed to large doses of topical corticosteroids. Drugs of this class should not be used extensively during pregnancy.

### PRECAUTIONS

F-E-P Creme may be irritating to the skin in some patients. If irritation occurs discontinue therapy. Staining of clothes or hair may also occur with use of this preparation. Although systemic toxicity has not been reported with this drug, adrenal pituitary suppression is possible, especially when the drug is used extensively or kept under an occlusive dressing for a prolonged period. Iodochlorohydroxyquin can be absorbed through the skin and interfere with thyroid function tests. Therapy with this preparation should stop at least a month before performance of these tests. The ferric chloride test for phenylketonuria (PKU) can be positive if F-E-P Creme is on the diaper or in the urine. Prolonged use of this drug may result in an overgrowth of non-susceptible organisms requiring appropriate therapy.

### ADVERSE REACTIONS

Skin rash or hypersensitivity may occur following topical application.

The following local adverse reactions have been reported with topical corticosteroids, especially under occlusive dressings: burning, itching, irritation, dryness, folliculitis, hypertrichosis, acneiform eruptions, hypopigmentation, perioral dermatitis, allergic contact dermatitis, maceration of the skin, secondary infection, skin atrophy, striae, miliaria. Discontinue therapy if untoward reactions occur.

### DOSE AND ADMINISTRATION

Apply a thin layer of the drug to affected parts 3-4 times daily.

### Note:

1. F-E-P Creme is distributed with 3.0% iodochlorohydroxyquin for use when antibacterial/antifungal activity is desired.
2. F-E-P Creme (Plain) is the regular formulation, but without iodochlorohydroxyquin.

Both of these preparations contain pramoxine hydrochloride, which has topical anesthetic properties. Pramoxine is not chemically related to benzocaine or amide type topical anesthetics. Patients can tolerate pramoxine although they may be sensitive to other "caine" type of topical or local anesthetics.

### HOW SUPPLIED

F-E-P Creme 1/2 ounce (15 gm) tubes NDC 0594-0096-51  
F-E-P Creme Plain 1/2 ounce (15 gm) tubes NDC 0524-0025-51  
Federal law prohibits dispensing without a prescription.  
July 1980

## SU-TON®

### DESCRIPTION

Forty-five milliliters of SU-TON contain the following ingredients:

Pentylenetetrazol	30 mg
Niacin	50 mg
Vitamin B-1	10 mg
Vitamin B-2	5 mg
Vitamin B-6	1 mg
Vitamin B-12	3 mcg
Choline	100 mg
Inositol	50 mg
Manganese (as Manganese Sulfate)	1 mg
Magnesium (as Magnesium Sulfate)	2 mg
Zinc (as Zinc Sulfate)	1 mg
Iron (as Ferric Pyrophosphate, Soluble)	92 mg
Alcohol	18%

### INDICATIONS AND USAGE

SU-TON contains pentylenetetrazol which may be helpful in the older patient as an anesthetic agent when mental confusion and memory defects are present. SU-TON also contains vitamins, trace minerals, and iron, for those patients who may benefit by preventing the development of a deficiency.

### CONTRAINDICATIONS

Epilepsy, convulsive disorders or known history of sensitivity to any of the listed active ingredients.

### WARNINGS

The safety of this preparation during pregnancy and lactation has not been established. Use of this drug requires that the physician evaluate the potential benefits of the drug against any possible hazard to the mother and child.

### PRECAUTIONS

Although there are no absolute contraindications to pentylenetetrazol, it should be used with caution in epileptic patients or those known to have a low convulsive threshold or a focal brain lesion. Caution should be exercised when treating patients with high doses of SU-TON who have heart disease. While pentylenetetrazol does not act directly on the myocardium, the results from central vagal stimulation could cause bradycardia.

### ADVERSE REACTIONS

Pentylenetetrazol in high doses may produce toxic symptoms typical of central nervous system stimulants, which act on the higher motor centers and the spinal cord. Convulsions resulting from this drug are spontaneous and are not induced by external stimuli. They usually last for several minutes and are followed by profound depression and respiratory paralysis. Death has been reported from the ingestion of 10 grams of pentylenetetrazol.

### DRUG ABUSE

Drug dependence has not been reported with SU-TON.

### OVERDOSEAGE

Signs and symptoms of acute overdose may be due principally from overstimulation of the central nervous system and from excessive vasodilatation with resulting autonomic nervous system imbalance. The symptoms may include the following: vomiting, agitation, tremors, hyperreflexia, sweating, confusion, hallucinations, headache, hyperpyrexia, tachycardia. Treatment consists of appropriate supportive measures. If signs and symptoms are not too severe and the patient is conscious, gastric evacuation may be accomplished by induction of emesis or gastric lavage.

Intensive care must be provided to maintain adequate circulation and respiratory exchange.

### DOSE AND ADMINISTRATION

One tablespoonful (15 ml) 3 times a day 20-30 minutes before meals. This drug is not for use in children under 12 years of age.

### HOW SUPPLIED

Bottles of 473 ml (16 fl oz) NDC 0524-0015-16  
Federal law prohibits dispensing without prescription.  
February 1980

## TWIN-K®

### DESCRIPTION

Each 15 milliliter (one tablespoonful) supplies 20 mEq of potassium ions as a combination of potassium gluconate and potassium citrate in a sorbitol and saccharin solution.

### INDICATIONS AND USAGE

For use as oral potassium therapy in the prevention or treatment of hypokalemia which may occur secondary to diuretic or corticosteroid administration. It may be used in the treatment of cardiac arrhythmias due to digitalis intoxication.

### CONTRAINDICATIONS

Severe renal impairment with oliguria or azotemia, untreated Addison's disease, adynamia episodica hereditaria, acute dehydration, heat cramps and hypokalemia from any cause. This product should not be used in patients receiving aldosterone antagonists or triamterene.

### WARNINGS

TWIN-K (potassium gluconate and potassium citrate) is a palatable form of oral potassium replacement. It appears that little if any potassium gluconate-citrate penetrates as far as the jejunum or ileum where enteric coated potassium chloride lesions have been noted. Excessive, undiluted doses of TWIN-K may cause a saline laxative effect.

To minimize gastrointestinal irritation, it is recommended that TWIN-K be taken with meals or diluted with water or fruit juice. A tablespoonful (15 ml) in 8 ounces of water is approximately isotonic. More than a single tablespoonful should not be taken without prior dilution.

### PRECAUTIONS

Potassium is a major intracellular cation which plays a significant role in body physiology. The serum level of potassium is normally 3.8-5.0 mEq/liter. While the serum or plasma level is a poor indicator of total body stores, a plasma or serum level below 3.5 mEq/liter is considered to be indicative of hypokalemia. The most common cause of hypokalemia is excessive loss of potassium in the urine. However, hypokalemia can also occur with vomiting, gastric drainage and diarrhea.

Usually a potassium deficiency can be corrected by oral administration of potassium supplements. With normal kidney function, it is difficult to produce potassium intoxication by oral administration. However, potassium supplements must be administered with caution since, usually, the exact amount of the deficiency is not accurately known. Checks on the patient's clinical status and periodic EKG and/or serum potassium levels should be made. High serum potassium levels may cause death by cardiac depression, arrhythmias or arrest.

In patients with hypokalemia who also have alkalosis and a chloride deficiency (hypokalemic hypochloremic alkalosis), there will be a requirement for chloride ions. TWIN-K is not recommended for use in these patients.

### ADVERSE REACTIONS

Symptoms of potassium intoxication include paresthesias of the extremities, flaccid paralysis, listlessness, mental confusion, weakness and heaviness of the legs, fall in blood pressure, cardiac arrhythmias and heart block. Hypokalemia may exhibit the following electrocardiographic abnormalities: disappearance of T wave, widening and slurring of the QRS complex, changes of ST segment and tall peaked T waves.

TWIN-K taken on an empty stomach in undiluted doses larger than 30 ml can produce gastric irritation with nausea, vomiting, diarrhea, and abdominal discomfort.

### OVERDOSEAGE

The administration of oral potassium supplements to persons with normal kidney function rarely causes serious hyperkalemia. However, if the renal excretory function is impaired, potentially fatal hyperkalemia can result. It is important to note that hyperkalemia is usually asymptomatic and may be manifested only by an increased serum potassium concentration with or without EKG changes. Treatment measures include:

1. Elimination of potassium containing drugs or foods.
2. Intravenous administration of 300 to 500 mEq/hr of a 10% dextrose solution containing 10-20 units of crystalline insulin per 1000 milliliters.
3. Correction of acidosis.
4. Use of exchange resins or peritoneal dialysis.

In treating hyperkalemia, it should be noted that patients stable on digitalis can develop digitalis toxicity when the serum potassium concentration is changed too rapidly.

### DOSE AND ADMINISTRATION

The usual adult dosage is one tablespoonful (15 ml) in 6-8 ounces of water or fruit juice, two to four times a day. This supply 40 to 80 mEq of potassium ions. The usual preventive dose of potassium is 20 mEq per day while therapeutic dose range from 30 mEq to 100 mEq per day. Because of the potential for gastrointestinal irritation, undiluted large single doses (30 mEq or more) of TWIN-K are to be avoided.

Deviations from this schedule may be indicated, since no average total daily dose can be defined, but must be governed by observation for clinical effects.

### HOW SUPPLIED

Bottles of 1 pint (16 fl oz)

NDC 0524-0015

### CAUTION

Federal law prohibits dispensing without prescription.  
July 1980

## TWIN-K-CI™

### DESCRIPTION

Each 15 ml (one tablespoonful) supplies 15 mEq of potassium ions and 4 mEq of chloride ions as a combination of potassium gluconate, potassium citrate, and ammonium chloride, in a sorbitol and saccharin solution.

### INDICATIONS

For use as oral potassium therapy in the prevention or treatment of hypokalemia which may occur secondary to diuretic or corticosteroid administration. It may be used in the treatment of cardiac arrhythmias due to digitalis intoxication.

Potassium and chloride are usually the salts of choice in the treatment of hypokalemia since chloride and potassium deficiency are likely to be associated with each other.

### CONTRAINDICATIONS

Severe renal impairment with oliguria or azotemia, untreated Addison's disease, adynamia episodica hereditaria, acute dehydration, heat cramps and hypokalemia from any cause. This product should not be used in patients receiving aldosterone antagonists or triamterene.

### WARNINGS

TWIN-K-CI is a palatable form of oral potassium replacement. Excessive, undiluted doses of TWIN-K-CI may cause a saline laxative effect.

To minimize gastrointestinal irritation, it is recommended that TWIN-K-CI be taken with meals or diluted with water or fruit juice. A tablespoonful (15 ml) in 8 ounces of water is approximately isotonic. More than a single tablespoonful should not be taken without prior dilution.

### PRECAUTIONS

Potassium is a major intracellular cation which plays a significant role in body physiology. The serum level of potassium is normally 3.8-5.0 mEq/liter. While the serum or plasma level is a poor indicator of total body stores, a plasma or serum level below 3.5 mEq/liter is considered to be indicative of hypokalemia. The most common cause of hypokalemia is excessive loss of potassium in the urine. However, hypokalemia can also occur with vomiting, gastric drainage and diarrhea.

Usually a potassium deficiency can be corrected by oral administration of potassium supplements. With normal kidney function, it is difficult to produce potassium intoxication by oral administration. However, potassium supplements must be administered with caution since, usually, the exact amount of the deficiency is not accurately known. Checks on the patient's clinical status and periodic EKG and/or serum potassium levels should be made. High serum potassium levels may cause death by cardiac depression, arrhythmias or arrest.

In patients with hypokalemia who also have alkalosis and a chloride deficiency (hypokalemic hypochloremic alkalosis), there will be a requirement for chloride ions. TWIN-K-CI is recommended for use in these patients.

### ADVERSE REACTIONS

Symptoms of potassium intoxication include paresthesias of the extremities, flaccid paralysis, listlessness, mental confusion, weakness and heaviness of the legs, fall in blood pressure, cardiac arrhythmias and heart block. Hypokalemia may exhibit the following electrocardiographic abnormalities: disappearance of T wave, widening and slurring of the QRS complex, changes of ST segment and tall peaked T waves.

TWIN-K-CI taken on an empty stomach in undiluted doses larger than 30 ml can produce gastric irritation with nausea, vomiting, diarrhea, and abdominal discomfort.

### OVERDOSEAGE

The administration of oral potassium supplements to persons with normal kidney function rarely causes serious hyperkalemia. However, if the renal excretory function is impaired, potentially fatal hyperkalemia can result. It is important to note that hyperkalemia is usually asymptomatic and may be manifested only by an increased serum potassium concentration with or without changes.

Treatment measures include:

1. Elimination of potassium containing drugs or foods.
2. Intravenous administration of 300 to 500 mEq/hr of a 10% dextrose solution containing 10-20 units of crystalline insulin per 1000 milliliters.
3. Correction of acidosis.
4. Use of exchange resins or peritoneal dialysis.

In treating hyperkalemia, it should be noted that patients stable on digitalis can develop digitalis toxicity when the serum potassium concentration is changed too rapidly.

### DOSE AND ADMINISTRATION

The usual adult dosage is one tablespoonful (15 ml) in 6-8 ounces of water or fruit juice, two to four times a day. This will supply 30 to 60 mEq of potassium ions and 8 to 16 mEq of chloride ions. The usual preventive dose of potassium is 20 mEq per day while therapeutic doses range from 30 mEq to 100 mEq per day. Because of the potential for gastrointestinal irritation, undiluted large single doses (30 mEq or more) of TWIN-K-CI are to be avoided.

Deviations from this schedule may be indicated, since no average total daily dose can be defined, but must be governed by observation for clinical effects.

HOW SUPPLIED Bottles of 1 pint (16 fl oz)

NDC 0524-0025

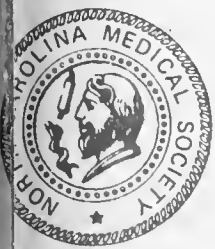
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**Boots Pharmaceuticals, Inc.**

Shreveport, Louisiana 71106

**Pioneers in Medicine For the Family**





# PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

NO. 11

APRIL 1981

## Greetings:

The North Carolina Medical Society Executive Council met April 3-4 in Raleigh. Dr. Jo Newell, President-Elect, reported plans to redistribute the committees of the Society more equally in the six commissions. Two existing ad hoc committees will be made continuing committees: the Committee to Investigate Various Insurance Plans and the Committee Liaison to the Dept. of Human Resources. A new Committee on Aging is being established.

The Council elected Drs. Jesse Caldwell, Don Chaplin, John Dees, Otis Duck, Dan Gottovi, Bill Hollister, Assad Meymandi, Angus McBryde, John McCain, Jim Parsons, George Podgorny, Frank Sohmer, Tom Speros, Ben Warren, Mrs. Hampton Hubbard, and Mrs. Douglas Russell to serve on the North Carolina State and Federal MEDPAC Boards for 1981-82.

The House of Delegates will receive ten reports and seventeen resolutions for consideration and action at the Annual Meeting in Pinehurst beginning May 7. The Delegate Packets will be mailed April 10. I urge each society to consider these matters and thoughtfully instruct your delegates.

The Council delayed action on the 257 physician members who have not completed CME requirements for the past three-year cycle. This delay will extend until the House of Delegates considers the resolution regarding "Compulsory Continuing Medical Education".

The Executive Council recommended to the House of Delegates that the Society approve health planning and peer review on a local community voluntary basis. It further was recommended that the Society join the AMA in working toward repeal of the laws known as the National Health Planning and Development Act (P.L. 93-641) and Professional Standards Review Organizations (P.L. 92-603). The Executive Council reaffirmed its previous position (Report A) not to keep verbatim minutes of the Executive Council meetings and (Report G) approving the "Doctor of the Day" program for the North Carolina Legislature.

The Executive Council recommended to the House of Delegates support of the efforts of the Medical Society of the County of St. Lawrence (New York) to change federal laws and regulations so that payment by Medicaid and Medicare will not discriminate on the basis of service or geography.

Dr. Hugh Tilson, Director of Division of Health Services, has resigned effective June 30, 1981. He plans to leave to enter a program "Medical Education for Mid-Career Physicians" at the Medical College of Pennsylvania in Philadelphia. We extend our best wishes to Hugh and to Ron Levine, Deputy Director, who will serve as Acting Director.

PLEASE READ THE ENCLOSED REPRINT FROM THE WALL STREET JOURNAL OF MARCH 12.

The Committee on Traffic Safety, chaired by Joe Russell, met on March 28-29, in conjunction with a Conference on the Driver Medical Evaluation Program of the Division of Health Services. The "Drinking Driver" continues to be the most serious menace on our highways. Don't be in that category. Caution your patients and friends. The Executive Council supported this committee's recommendation to oppose the proposed repeal of the motorcycle helmet and headlight law. All physicians should obtain the "Guide for Determining Driver Limitation" booklet. This is very informative and helpful. Write to the Dept. of Human Resources, P. O. Box 2091, Raleigh, N.C. 27602. Please fill out the medical report forms on your patients carefully, correctly, and fully, when requested by the Highway Safety Branch, so that the M.D. consultants may have the benefit of your opinion regarding the patient's ability to drive.

Prudential Insurance Company, Fiscal Intermediary, for Part B Medicare Program has reported that because of "discrepancies" in authorization forms for durable medical equipment; certain supplies ought to submit only physician prepared forms. Your cooperation will be appreciated.

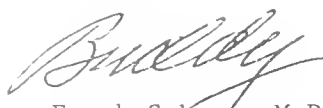
Governor Hunt has proclaimed April 26-May 2 as Emergency Medical Services Week. These good services to the public need to be recognized.

Duke University Vice President for Health Affairs, Dr. William Anlyan serves as a Trustee for the North Carolina School of Science and Mathematics. He points out that if we are to populate rural North Carolina with physicians we need to identify talented youngsters at this stage of life so they will later have a better chance to be admitted to a good pre-med program. Alexander, Bladen, Caswell, Cherokee, Currituck, Greene, Graham, Jones, Macon, Northampton, Pamlico, Stokes, and Yancey Counties did not submit nominees for 1981-82 school year admission. You physicians can help identify good candidates for this excellent opportunity.

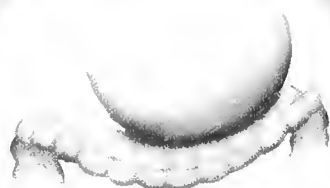
Medical Liability Mutual Insurance Company of North Carolina in 1980 wrote \$4.9 million in premiums and increased investments to \$11.7 million. Capital and surplus was \$1.5 million with \$995,000 in guaranty capital. Ten percent interest was paid on guaranty capital (maximum allowed by statute). Despite a high incidence of claims reported and a major increase in the cost of the average claim, the Company showed a healthy \$302,000 profit because of excellent investment income of over \$865,000. These funds were carried into capital and surplus to further strengthen the Company against adverse trends. Escalating claims cost fueled by inflation sound a warning of the need to raise premiums in the near future. As of May 1, the name of the Company will be MEDICAL MUTUAL INSURANCE COMPANY OF NORTH CAROLINA.

It is hard to understand how your Medical Society functions unless you've seen the House of Delegates in action. I strongly urge you to attend this year's Annual Meeting May 7-10 in Pinehurst. Every member of the Society has the right to be heard in Reference Committee on the socio-economic and medical issues that the House will consider. Additionally, you can pickup CME credit by attending your section meetings and the General Scientific Sessions. You owe it to yourself to attend.

Sincerely,

  
Frank Sohmer, M.D.  
President

In G.I. therapy



# Adjunctive Librax®

Each capsule contains  
5 mg chlorthalidopoxide HCl  
and 2.5 mg clobazepam HCl

antianxiety/antisecretory/antispasmodic

for adjunctive therapy of duodenal ulcer\*  
and irritable bowel syndrome\*

## Librax®

For complete prescribing information, a summary of which follows:

**Indications:** Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

"Possibly" effective: as adjunctive therapy in the treatment of peptic ulcer and in the treatment of the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enteronitis.

Final classification of the less-than-effective indications requires further investigation.

**Contraindications:** Glaucoma, prostatic hyperplasia, benign bladder neck obstruction; hypersensitivity to chlorthalidopoxide HCl and/or clobazepam HCl.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Physical and psychological dependence rarely reported on recommended doses, but use caution in administering Librax® (chlorthalidopoxide HCl/Roche) to known addicts.

ben-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions) reported following discontinuation of the drug.

**Usage in Pregnancy:** Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.

As with all anticholinergics, inhibition of lactation may occur.

**Precautions:** In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, drowsiness, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug.

and oral anticoagulants, causal relationship not established.

**Adverse Reactions:** No side effects or manifestations not seen with either compound alone reported with Librax. When chlorthalidopoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated; avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncopal reported in a few instances. Also encountered isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, ataxic/ataxic symptoms, increased and decreased libido—all infrequent; generally controlled with dosage reduction; changes in EEG patterns may appear during and after treatment. Blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlorthalidopoxide HCl, making periodic blood counts and liver function tests advisable during prolonged therapy. Adverse effects reported with Librax typical of anticholinergic agents, i.e., dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation occurred most often when Librax therapy combined with other spasmolytics and/or laxatives.

ROCHE

Roche Products  
Mann, Pa.

# "We're together because Dr. Benson recommended home health care."

Home health care is an excellent alternative when your patients cannot fully care for themselves, yet do not need to be in a hospital or nursing home. They can enjoy the comforts of home and family while receiving the care they need, often at a cost far below that of institutional care. And you are always in full control of the plan of care.

Each year, thousands of people receive care at home from Upjohn HealthCare Services<sup>SM</sup>. We employ nurses, nurse assistants, home health aides, homemakers and companions.

We're the nation's leading private provider of home health care, with hundreds of offices throughout the United States and Canada. Many of our offices are licensed to provide services covered by Medicare.

Upjohn HealthCare Services is a service program of The Upjohn Company, a name you and your patients can trust. For free home health care information packets you can give to your patients, please send us the coupon below. Or call our office nearest you, listed in the white pages of your telephone directory.



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Kalamazoo, Michigan 49002

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# Committee on Anesthesia Study Anesthetic-Related Deaths: 1969-1976

Albert A. Bechtoldt, Jr., M.D.

**ABSTRACT** From 1969 to 1976, over two million anesthetics were administered in North Carolina. The Anesthesia Study Committee received reports of about 900 perioperative deaths and judged that 90 of these were, to a certain extent, related to the administration of an anesthetic. These 90 are analyzed according to time of occurrence, the initial sign of trouble, the operative site, the age of the patient, the anesthetic risk, and the administrator of the anesthetic. Our definition of anesthetic-related death and the difficulties in obtaining information are discussed.

ANYONE who administers anesthesia should anticipate a successful anesthetic, in which the patient is no worse afterwards than before.<sup>1</sup> Unfortunately, there are numerous ways in which the anesthetic management can be detrimental to a patient. The Anesthesia Study Committee (ASC) was established by the North Carolina Medical Society to discover ways to reduce morbidity and mortality in the perioperative period. This report summarizes the findings of this committee over the eight-year period from 1969 to 1976, and suggests some areas of particular concern.

## METHODS

### *Information Gathering*

Two sources were used to obtain the names of patients who died in

the perioperative period — death certificates sent from the Bureau of Vital Statistics and death certificates sent from the Medical Examiner's office.

The Bureau of Vital Statistics of the State Board of Health identified death certificates that mentioned an operative procedure and forwarded copies to the study committee. If, after superficial review by the committee, it appeared that the anesthetic might have played a role in a death, a questionnaire was sent to the administrator of that anesthetic, who was requested to complete it and return it to the chairman of the committee for evaluation. If the anesthetist felt that anesthesia played a role in the death, or if the account suggests that anesthesia may have played such a role, all of the information was brought before the 10 physicians on the ASC for discussion and final judgment. Names of the individuals and hospitals involved were removed and code numbers assigned in order to make the reports anonymous.

In order to overcome some problems with these procedures, the Medical Examiner (ME) system was established in late 1971. By law, all deaths during surgery must be reported to the ME who certifies the cause of death. In North Carolina's legal system, operating room deaths come under the ME's investigative area of unusual deaths. The degree to which the ME investigates a death is obviously determined by individual and local circumstances. The data resulting from the ME investigation is assessed by the study committee along with data from the

routine death certificate and the questionnaire.

### *Definitions and Criteria*

Several factual and philosophical considerations complicate attempts to derive a precise definition of anesthesia-related deaths. First, one must define the interrelationships of three factors: (1) the patient and his disease or state of health, (2) the surgical procedure or operation, and (3) the anesthetic that is being administered. Second, one must define the relative importance of these three factors — or the role each played. That is, did a factor play a sole, contributory, or coincidental role? Sometimes, one does play an obvious role, but more often, determination of the cause of death is quite difficult.<sup>2,3</sup>

At one end of this spectrum anesthesia may be the sole cause of death. Here, a mishap occurs and the patient's disease and operative procedure play no part in death. An example would be esophageal intubation of a healthy patient leading to death before the surgical procedure starts. At the other end, anesthesia is associated with a death but really plays no role in the death, as is the case in the moribund patient: as a patient in shock from a ruptured aortic aneurysm that cannot be repaired. The anesthetic is simply coincidental with the death. In the mid-spectrum, the anesthetic contributes to the death but the patient's disease or the surgical procedure also plays a role. Such was the case in most of the reports we received. Therefore, the ASC had to decide which was the most important factor. In this report, we

Chairman, Anesthesia Study Committee, North Carolina Medical Society, and Assistant Professor of Anesthesiology, University of North Carolina School of Medicine, Chapel Hill, N.C. 27514

have included anesthesia as the sole cause of death, and anesthesia as the major contributing factor. Therefore, we prefer to use the term anesthetic-related death rather than anesthetic death — which would denote anesthesia as the sole cause of death.

Next, to make the problem even more complex, criteria defining an anesthetic had to be established. Our definition can be divided into six areas: (1) Type (2) Location (3) Administrator (4) Time interval or period (5) Operation or surgical procedure (6) Patient disease.

1. Type. The types of anesthetics considered in this report include general, regional, local infiltration, and intravenous sedation in conjunction with a procedure. All phases of perioperative management from preoperative patient evaluation to postoperative care are also considered including choice of anesthetic technique, drugs and their administration and monitoring, and the interaction of anesthetic and non-anesthetic drugs.

2. Location. Although the anesthetic is usually given in the operating room, there is no limitation to the operating room in this report. Other sites include the delivery room, cystoscopy clinic, emergency room and x-ray department.

3. Administrator. There is no limitation in this report as to who gave the anesthetic. Included were Certified Registered Nurse Anesthetists (CRNA), anesthesiologists, a combination of CRNA and anesthesiologists, surgeons, and dentists. Residents and nurses in training were not reported separately here, however, but rather according to the title of their supervisor.

4. Time interval. There is no agreement concerning the time period during which anesthesia can be considered as a cause of death. Most of the anesthetic-related deaths reported here occurred in the operating room or in the first 12 hours after anesthesia. However, some occurred as long as several months after the anesthetic, either as a sequelae of a cardiac arrest or injury at the time of the anesthetic, or as a possible consequence of a metabolic effect of the anesthetic.

Thus, we placed no limitations for the anesthetic related deaths in this report. However, in a practical sense, the longer the time period between the anesthetic and the death, the greater the uncertainty regarding the role of anesthesia.

5. Surgical procedure or operation. We placed no limitations on the type of operation being performed. Included are diagnostic procedures, "minor procedures," all the way to open heart surgery. Obviously, high risk procedures can be difficult to evaluate and their risk can far outweigh the role of anesthesia. Nevertheless, a high risk procedure does not exclude the possibility of an anesthetic complication. Likewise, we did not try to separate elective procedures from emergency procedures. The definition of emergency cannot be agreed to because there are many degrees of emergency, or urgency.

6. Patient risk. Again, we placed no limitations on patient risk, and all classes of the American Society of Anesthesia (ASA) Physical Status are represented in this report. The ASA Physical Status classification was developed 40 years ago to allow assessment of patient risk of withstanding the stress of anesthesia and surgery.<sup>4,5</sup> Patients are divided into five classes based entirely on the severity of their system disease(s) ranging from the Class 1 healthy patient to the Class 5 moribund patient not expected to live more than 24 hours. A patient with mild or moderate systemic disease, such as hypertension, would fit into Class 2, while a patient with severe systemic disease, such as hypertension and an old myocardial infarction, would be in Class 3. The Class 4 patient is one whose death is likely but who should survive more than 24 hours. Obviously, the high risk imposed by disease can far outweigh that of the anesthetic in a death. Nevertheless, a high risk patient does not exclude the possibility of an anesthetic complication.

## RESULTS

Between 1969 and 1976, the ASC received reports of slightly over 100 perioperative deaths per year, or about 900 in the eight-year period.

Slightly more than 200 of these deaths occurred in operating rooms. From the information that we have received, the ASC has determined that 90 perioperative deaths in North Carolina have had a significant relationship to the administration of anesthesia. In other words, anesthesia has been the sole or significant contributing factor in about 11 deaths annually.

To find some patterns in these 90 deaths, we analyzed them first in terms of aspects of the anesthetic; second, in terms of two aspects concerning the patient; and third, in terms of one aspect concerning the surgical procedure.

### Anesthetic

Analysis of the 90 anesthetic-related deaths as they related to the anesthetic was made according to (1) the initial sign of trouble in relation to the time of death and (2) the incidence of death among the various groups who administered the anesthetic.

**Time of Death.** We defined an intraoperative period and a postoperative period. The intraoperative period was subdivided into the "induction" period before the incision was made and the "during surgery" period after the incision was made. The postoperative period was subdivided into the period where the initial cardiac arrest leading to the death occurred in the "operating room" and the period of cardiac arrest and death in the postoperative "recovery period." These distinctions were found to be important in demonstrating trends in the causes of anesthetic-related deaths.

Of the 90 anesthetic-related deaths, about half occurred in the operating room, of which 19 occurred on induction, and 28 during

**TABLE I**  
**Anesthetic-Related Deaths: 1969-1976**

Time of death	
Intraoperative	47
Induction	19
During surgery	28
Post-operative	43
Cardiac arrest in surgery	10
Cardiac arrest in recovery	33
Total	90



**TABLE II**  
**Anesthetic-Related Deaths: 1969-1976**  
**Initial signs attributed to deaths in the operating room**

	Induction	Intraoperative
A. Cardiovascular	16	16
1. Hypotension	14	9
2. Arrhythmia	2	2
3. Myocardial infarction or failure	0	4
4. Air embolus	0	1
B. Pulmonary	3	9
1. Esophageal intubation	1	0
2. Aspiration	1	0
3. Bronchospasm	1	1
4. Inadequate ventilation	0	6
5. "Respiratory arrest"	0	2
C. Patient unobserved	0	1
D. Unknown	0	2
Total	19	28

surgery (Table I). The other half were recorded in the postoperative period. Ten had a cardiac arrest in the operating room, but died later and 33 had cardiac arrest and death in the recovery period.

The cause of death during each of these time periods, as in any unexpected death, was usually impossible to define, but the initial signs or symptoms of trouble show some interesting patterns. The data in Tables II and III show a distinctive overall pattern.

In 47 intraoperative anesthetic related deaths, cardiovascular problems as the initial sign of trouble were noted in 32 (75%) of the deaths (Table II), particularly on induction where cardiovascular problems were the initial sign of disaster in almost 90% of the deaths. The most common cardiovascular problem was hypotension — present in half (23 of 47) of the operating room deaths. Hypotension represented the interaction of a multitude of anesthetic drugs, both for general and regional anesthesia. In some deaths, preoperative hypovolemia was suspected. In others there was an unexplained or unexpected adverse response to an ordinary dose of a commonly used drug. Beyond this statement of response, further analysis becomes controversial. In five deaths, hypotension followed a change in position of the anesthetized patient, such as to the lateral, kidney, and prone positions. Although hypotension with change in position is not surprising, since anesthetics do depress the autonomic nervous system, and limit the

cardiovascular system's ability to react to change in position, death in these patients was not anticipated.

In four patients, fatal arrhythmias followed the administration of an anesthetic drug or followed an otherwise uneventful intubation. These were the first signs of disaster and were unexpected.

Included were four patients whose recent myocardial infarctions were documented at autopsy, but either whose history had been ignored or who did not have recent electrocardiograms. On the other hand, not included in this study were several patients who had silent infarctions, documented at autopsy, but who had recent normal electrocardiograms. This emphasizes the need for a good preoperative patient evaluation as well as the

value of an autopsy after an unexpected death.

Air embolism producing cardiovascular difficulties is common in head and neck surgery with the patient in the sitting position. Standards for monitoring and treating these patients have been established.<sup>6</sup> We determined to include this type of death due to the lack of adherence to these standards as an error in anesthetic management and not to the air embolus itself.

Pulmonary problems as a cause of unexpected anesthetic-related deaths in the operating room were not as common (12 of 47) as cardiovascular difficulties. Eight of these 12 appeared to be related to anesthetic management, either inadequate ventilation or oxygenation (6) or intubation management (2). The other four appeared related to the interrelationship of anesthetic drug to patient producing bronchospasm or sudden respiratory arrest. Unfortunately, in almost every instance of suspected inadequate ventilation, findings were subjective and arterial blood gas concentrations were not determined.

In one unfortunate incident a patient under general anesthesia was left unobserved due to another emergency. The situation that produced this death has been corrected.

Finally, there were two deaths that could not be explained by those

**TABLE III**  
**Anesthetic-Related Deaths: 1969-1976**  
**Initial signs attributed to deaths in the recovery period**

	Cardiac arrest in:	Operating room	Recovery period
A. Cardiovascular		5	5
1. Hypotension	2		0
2. Arrhythmia	2		0
3. Myocardial infarction	0		5
4. Air embolus	1		0
B. Pulmonary		4	19
1. Inadequate ventilation	4		9
2. Aspiration	0		6
3. Upper airway obstruction	0		3
4. Pulmonary edema	0		1
C. Temperature		0	3
1. Malignant hyperthermia	0		2
2. Hypothermia	0		1
D. Neurological		0	3
1. Delayed awakening, unknown cause	0		2
2. ?Cerebral vascular accident	0		1
E. ?Halothane hepatitis		0	2
F. Unknown		1	1
Total		10	33

present. Information provided to us was not sufficient for us to assign a cause or initial sign, other than to say that the death was not related to the patient's health or to the operation.

Of the 43 postoperative anesthetic-related deaths, 10 occurred after a cardiac arrest in the operating room (Table III). Five presented with cardiovascular problems, four with pulmonary problems, namely inadequate ventilation, and one with unknown cause or initial sign. The pattern of these 10 deaths is similar to those observed in the operating room.

Of the 33 true postoperative anesthetic-related deaths, the initial signs of disaster were predominantly pulmonary, 19 of the 33 (60%). Half were related admittedly to inadequate ventilation and were often associated with obesity and use of muscle relaxants. Another

sizable group died from aspiration, usually occurring during the intraoperative period but not treated postoperatively according to usual standards of practice.<sup>7</sup> Anesthetic management was involved here, often not due to the aspiration *per se* since the possibility was known, precautions usually taken, and the mishap identified, but more often due to the lack of evaluation and treatment, i.e., intubation and ventilatory support, until cardiac arrest.

The three upper airway obstruction problems were suspected, although inadequate ventilation could have been the primary cause rather than the result of obstruction.

Three deaths resulted from temperature problems, two with malignant hyperthermia who died in the early postoperative period. There was no mention of a cardiac arrest in the operating room. The other pa-

tient, neonate having bowel surgery, whose temperature was not monitored in the operating room, developed hypothermia and subsequently died.

Of the three patients with neurological problems, two were slow in awakening and one had a possible cerebral vascular accident as the initial signs of trouble. No causal explanation could be given.

Deaths possibly attributable to halothane hepatitis occurred in the year when this entity was unduly publicized. Although extensively investigated, it was impossible for us to come to a definite conclusion concerning these cases. Thus, we followed the opinion of those who submitted the report.

**Groups Administering Anesthetics.** We tabulated the number of anesthetic-related deaths among these groups giving the anesthetic: (1) the Certified Registered Nurse

#### ANESTHETIC-RELATED DEATHS: Distribution of Anesthetics Administered

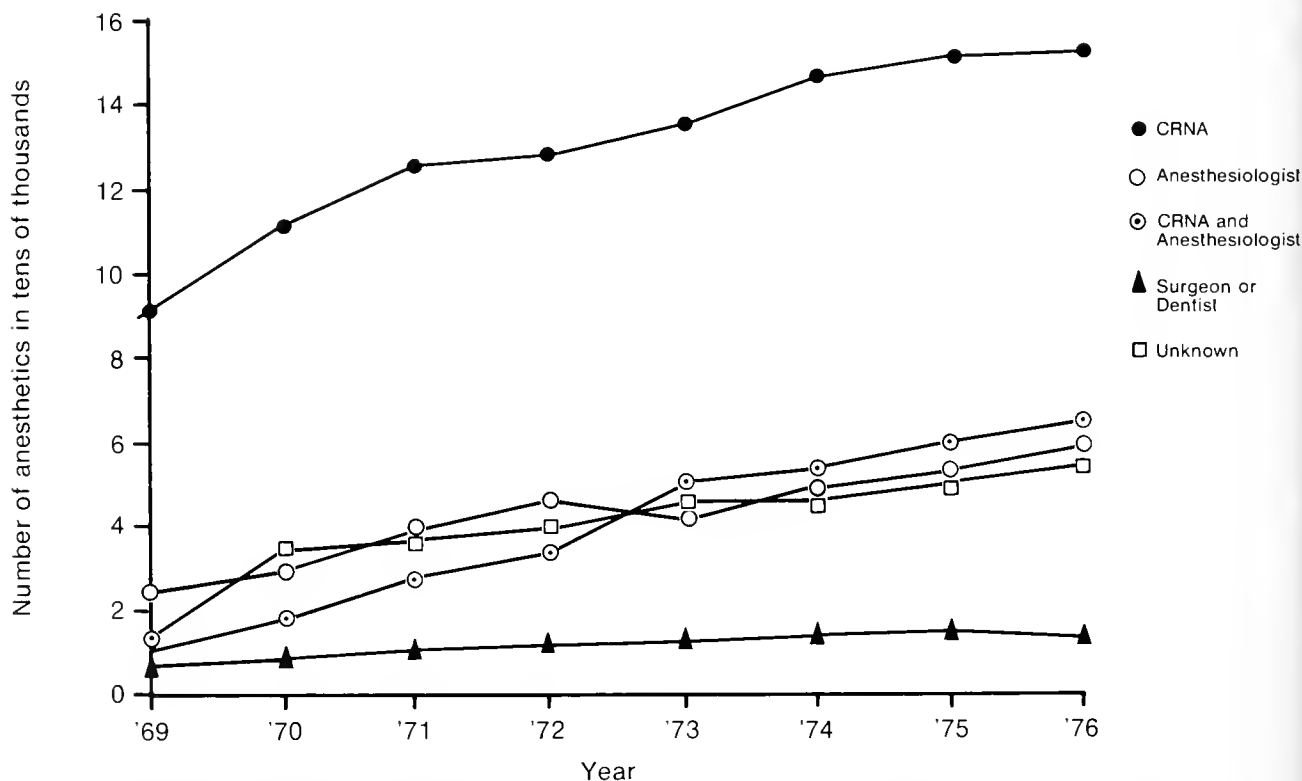


Fig. 1. The total number of anesthetics administered each year by each group administering the anesthetic, as defined in the text, is shown here. CRNA = Certified Registered Nurse Anesthetist

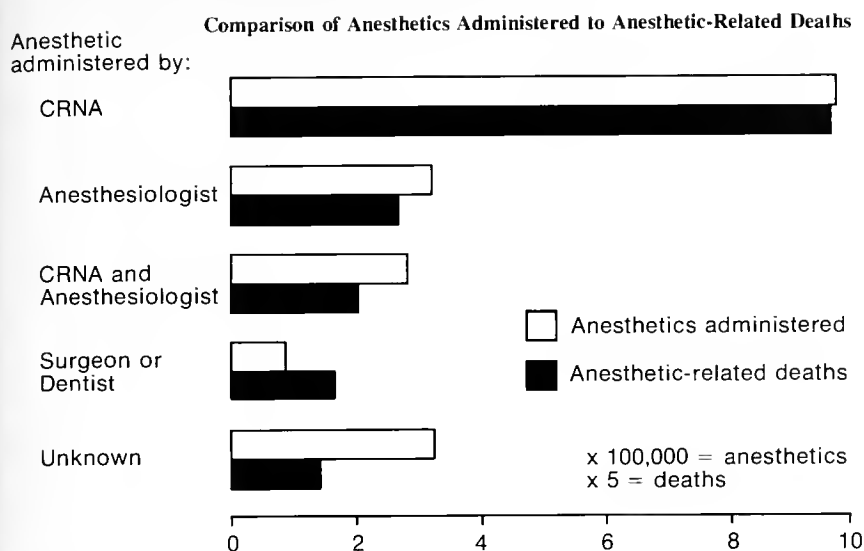


Fig. 2. The total number of anesthetics administered by each group as defined in the text is compared to the number of anesthetic-related deaths reported for the same group. CRNA = Certified Registered Nurse Anesthetist.

Anesthetist working alone, (2) the anesthesiologist working alone, (3) the combination of CRNA and anesthesiologist working together, (4) the surgeon or dentist giving the anesthetic with or without monitoring the patient, and (5) an "unknown" group. The unknown group usually was attributed to a deficiency in record keeping. Those in training in a CRNA or residency program were assigned to a group according to their supervisors.

Next, we surveyed all of the hospitals in North Carolina to determine the number of anesthetics given by these groups. From 1969 to 1976, over two million anesthetics were administered in North Carolina. Their distribution is shown in Figure 1.

Therefore, when we calculated the incidence of anesthetic-related deaths for each group which administered the anesthetic (Figure 2),

**TABLE IV**  
**Incidence of Anesthesia-Related Deaths to Anesthetics Administered**

CRNA	1:20,723
Anesthesiologist	1:24,500
CRNA and Anesthesiologist	1:28,166
Surgeon/Dentist	1:11,432
Unknown	1:47,914
Average	1:23,486

CRNA = Certified Registered Nurse Anesthetist

we found that the incidence among the three major groups (the CRNA, the anesthesiologist, and the combination of CRNA and anesthesiologist) to be rather similar. Although the CRNA working alone accounted for about half of the anesthetic-related deaths, the CRNA working alone also accounted for about half of the anesthetics administered. Numerically, about one death occurred for about 24,000 anesthetics administered by each of these three major groups (Table IV). There is some deviation from this pattern with the smaller groups (surgeon/dentist and unknown), but we question the validity of the statistics for these groups since hospital record-keeping in this area, particularly

**ANESTHETIC-RELATED DEATHS:**  
**Anesthetic-related deaths related to age**

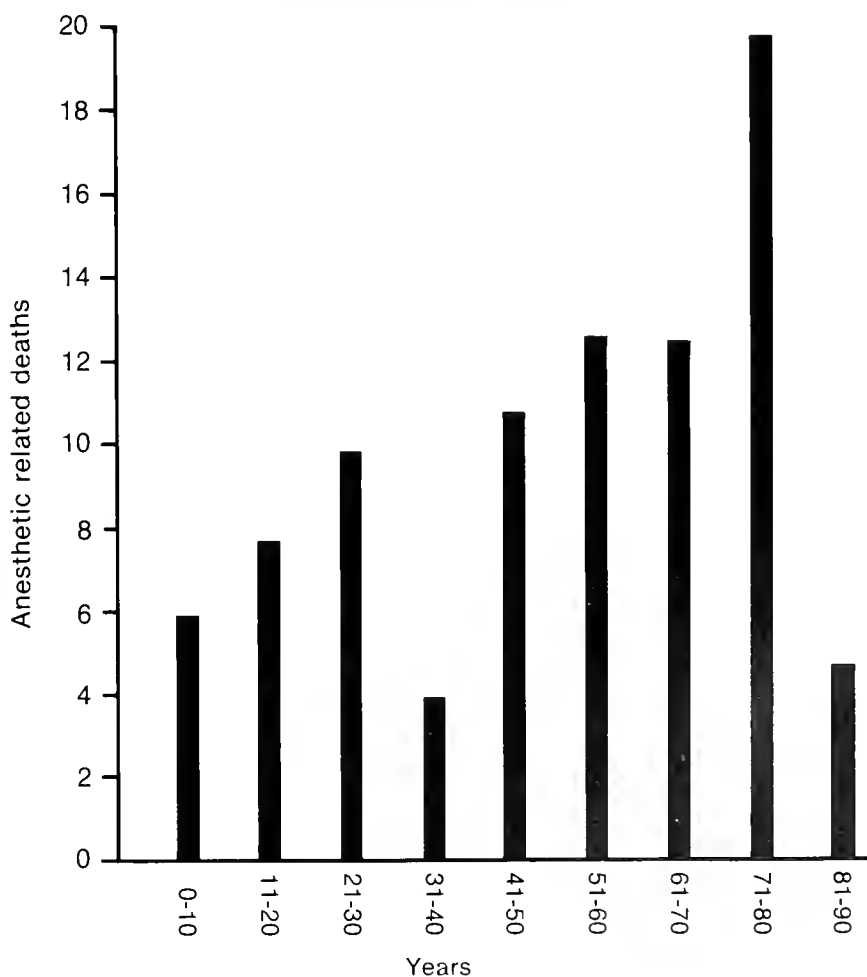


Fig. 3

# **ANESTHETIC-RELATED DEATHS** Anesthetic-Related Deaths Related to ASA Physical Status

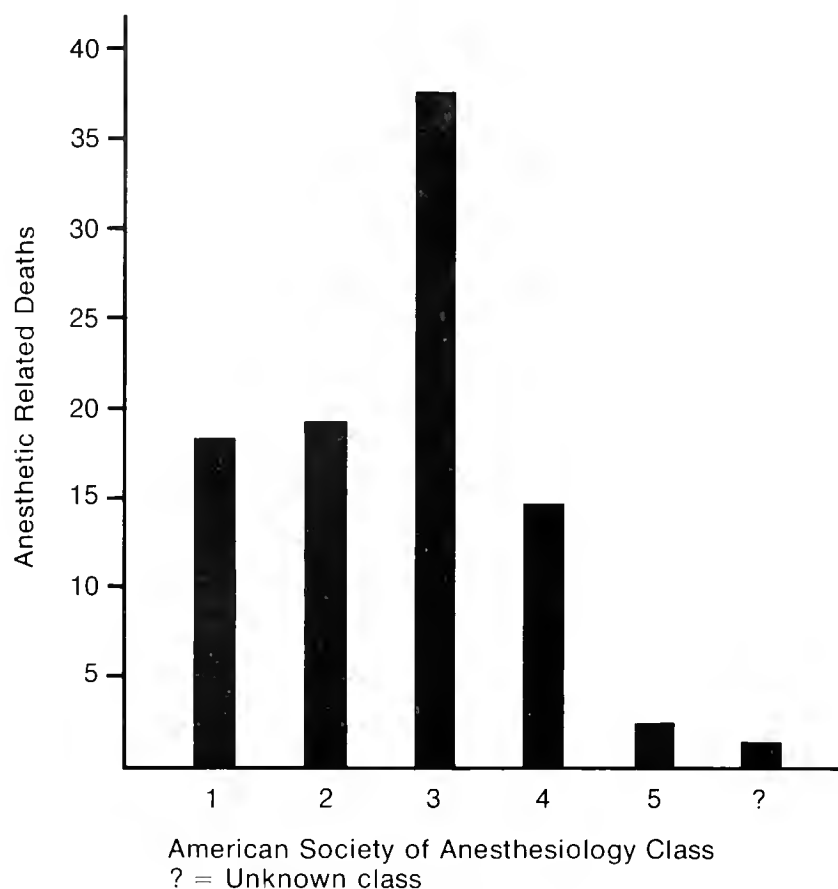


Fig. 4

with minor procedures, proved to be poor.

## *Patient*

Analysis of the 90 anesthetic-related deaths was made according to the two variables available to us — (1) patient age, and (2) ASA physical status.

**Patient Age.** The number of anesthetic-related deaths increases as patient age increases (Figure 3). This may mean that the older patient is less able to tolerate the stress of anesthesia and surgery; but it may also mean that more anesthetics are given to these patients. Data about these variables were not available to us, so we could not correlate the incidence of anesthetic-related deaths with age. However, increased mortality with increased age is known.<sup>8</sup>

**ASA Physical Status.** In those patients who are expected to survive

the anesthetic, the number of anesthetic-related deaths increases with increasing risk (Figure 4). Again, this may mean that the patient with greater risk (poorer health) has less reserve to tolerate anesthesia and surgery, but it may also mean that more anesthetics are given to these sicker patients. Such information could not be derived in this study. Thus the incidence of anesthetic-related deaths according to ASA physical status cannot be determined. However, the increased mortality with increasing risk is known.<sup>8,9</sup> The low number of anesthetic-related deaths in the ASA physical status Class 4 and 5 groups most likely indicates that the patient's disease was more significant than anesthesia in most deaths. Also, it may mean that there were fewer operations performed in these groups, or that greater attention or care was given to the patient.

## *Operation*

These deaths were analyzed in relationship to the operative site (Figure 5). Most of the deaths (almost 40%) occurred in intra-abdominal procedures. A fairly common problem during intra-abdominal procedures was the inadequacy of ventilation, particularly

# **ANESTHETIC-RELATED DEATHS** Anesthetic-related deaths related to the major operative site

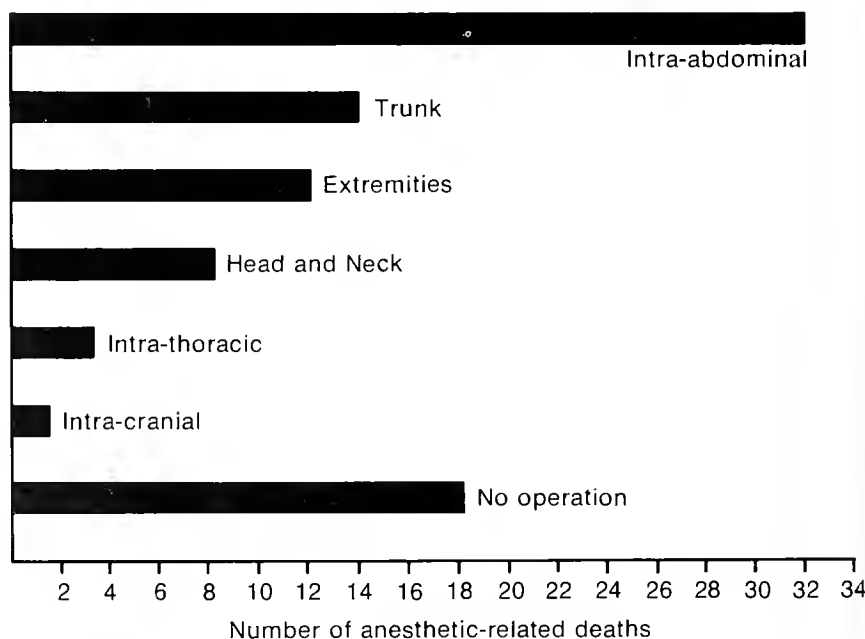


Fig. 5

postoperatively. Reasons included obesity, residual effects of muscle relaxants and other anesthetic agents, and the overall effect of abdominal surgery on ventilation. In retrospect, this points out the need for better monitoring and more adequate post-operative ventilation.

Unfortunately, we do not know the number of intra-abdominal procedures performed and cannot determine the relative incidence of anesthetic-related deaths in this group, although the number of anesthetic-related deaths is divided equally between upper and lower abdominal procedures. However, there is at least one report of an increased mortality with intra-abdominal surgery.<sup>10</sup>

### DISCUSSION

Two deficiencies in this report should be pointed out: Not all perioperative deaths are reported to the ASC, and insufficient data were available for some deaths.

We learned that not all deaths were reported. If a surgical procedure was not noted on the death certificate, the Bureau of Vital Statistics did not forward a copy of the death certificate to the ASC. After the Medical Examiner System was instituted in late 1971, all operating

room deaths should have been reported to us. Nevertheless, notification of a death to the ME, and his certification, are voluntary. There are times when an operative death is reported to us by one system or the other, but not by both, but this is becoming less frequent.

The contribution of information by those involved with the care of the patient was voluntary, also. The questionnaires which we sent out could be answered inadequately, or not at all. However, during the years of this study, about 70% of our requests for information were answered sufficiently to be included in this study. The ME system shows promise of producing an even better response. The ME not only adds additional information to our study, but also stimulates better participation by those involved. Only if everyone is concerned will this committee produce adequate information for analysis.

This also applies to the study of anesthetics administered in North Carolina. We received information, most often complete, from about 80% of the hospitals in the state. Since the total numbers were large, and the response rate fairly similar, we felt that the rough estimate of one anesthetic-related death per

24,000 anesthetics administered was rather accurate. Others<sup>8,11,12</sup> have reported from 1:14,000 to 1:850 deaths per anesthetics where anesthesia was the primary cause, and from 1:4,000 to 1:400 deaths per anesthetics where anesthesia was contributory.

Again, there is no standard definition of an anesthetic-related death. If there were standard criteria, more accurate comparisons could be made.

### ACKNOWLEDGMENT

The author wishes to thank the members of the Anesthesia Study Committee for their help in reviewing these reports and obtaining information for this paper.

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### Broadbent's Sign

By the kind permission of the physicians at the Brompton Hospital I am permitted to publish the notes of four cases now under their care in the wards, in each of which there is visible retraction, synchronous with the cardiac systole, of the left back in the region of the eleventh and twelfth ribs, and in three of which there is also systolic retraction of less degree in the same region of the right back. In all these cases there is a definite history of pericarditis, and in three of them there are other conditions strongly suggesting an adherent pericardium. The only means of causing this retraction on both sides seems to be the diaphragm, which, if pulled upon, would have more effect on the floating eleventh and twelfth ribs than on the more fixed ones. In cases of large heart with adherent pericardium there is a considerable area of the ventricles closely adherent to the central tendon of the diaphragm, and the powerful contraction of the hypertrophied heart must give a decided tug to this structure. That it should affect the ribs more often on the left side would be expected from the adhesion being mainly to the left of the middle line; the liver also, which is often large in these cases, may restrain the movement on the right. — Walter Broadbent, 1895.

# A Definitive History of the Raleigh Academy of Medicine

Alexander Webb, Jr., M.D.

ON January 5, 1870, at the home of Dr. Charles E. Johnson, Drs. William T. Hill, E. Burke Haywood, William Little, Richard Haywood and Wisconsin I. Royster met to form the Raleigh Academy of Medicine. The founding of this organization is detailed in the minutes of the academy, which do not divulge what had taken place among the doctors in the months before they reached a formal agreement. It was unanimously recognized that an organization should be founded that would enable practitioners of medicine to discuss the problems, treatment and prognoses they all faced.

Dr. Haywood, long recognized as a leader in the medical profession and promulgator of the academy, was called upon to read the proposed constitution and by-laws. Article II of the Constitution stated the academy's objectives: The cultivation of the science of medicine; the advance of the character and honor of the profession; the elevation of the standards of medical education; and the promotion of the public health. From this beginning, honorable traditions evolved and became firmly established over the years.

When one contemplates those unsettled times, it is a small wonder that these men should be thinking of a lofty undertaking beyond the simple survival that the times de-

manded. The Civil War had drained the South, and the Union troops provided the only law enforcement. Congress had determined that the South would pay dearly for its behavior: civil strife was rampant and the South was reeling from the destruction of its political and social system. The ever present fact was that these doctors were not only the educated elite but that they also stood above and apart from the efforts of politicians in a struggle to make a better world.

After the founding meeting, it was decided that the academy would meet monthly and on call of the president, if needed, and that such meetings would be rotated among the members at their homes. During the first years of the academy, this rotation was followed, with each member in sequence acting as host.

During its second year, members suggested that a suitable hall should be engaged for their meetings. In the fall of 1872, a hall was found and for two years, the academy met in a building on the northwest corner of Fayetteville and Martin Streets, but in March, 1875, the academy relinquished the use of the hall. For the next 25 years, various members' offices were used. As the city grew, members tended to locate their offices close to one another; in the early days, on West Morgan Street, later on North Wilmington Street, and lastly at the Tucker Building on the northwest corner of Fayetteville and Martin Streets. The doctors moved en masse to the Professional Building in 1929 except for a few

who were located outside this center.

The meetings were strictly conducted according to the parliamentary procedure of the time. Each meeting was presided over by the president who called it to order. The secretary then called the roll and read the minutes of the preceding meeting. New members were voted on as they were proposed. The subject for discussion was introduced by the Committee to Choose Subjects and usually a member was designated to lead the discussion, commonly a clinical subject which was then discussed, with each member stating his mode of therapy. It is of interest that when the academy was young, its members advocated vigorous purgation and catharsis but 20 years later considered that too many drugs were being used. After discussion, other aspects of the profession were considered and either an opinion was expressed by the academy or a committee was appointed to investigate and report later.

The minutes recorded when a member had been derelict in the eyes of his colleagues. If an offense were grave enough, it could lead to expulsion of a member, an extreme penalty suffered by at least three persons who were expelled for "conduct unbecoming a gentleman." The academy and its members had high ideals and the fortitude and character to uphold them when circumstances demanded.

Such was the case in the summer of 1909. Dr. A. W. Goodwin had



been a member for several years. It came to the knowledge of the president, Dr. A. W. Knox, that the Wake County Medical Society had voted to rescind the license of Dr. Goodwin for four cases of prolonged treatment when not indicated by the diagnosis. The county society had investigated each episode completely and so Dr. Knox wrote Dr. Goodwin that he had been found guilty by the county society and it was imperative that he resign from the academy. Dr. Goodwin ignored the letter, so Dr. Knox wrote another. The secretary also wrote after his expulsion was voted on by the academy. Dr. Goodwin replied, demanding a hearing which was held before the Board of Censors of the academy in August. Hearsay had it that Dr. Goodwin appeared with two loaded pistols in holsters at his side. Appearing with him were two respected lawyers who demanded that they be included in the hearing. The chairman of the Board of Censors, Dr. Wisconsin I. Royster, stated that the committee was in reality a fact-finding committee and this was not a trial. There followed much legal eloquence, but the committee ruled that the lawyers were not to participate so they were dismissed. The Board of Censors reported to the full membership and Dr. Goodwin was expelled by unanimous vote. Thus, although the academy was right in its attitude of censoring its members, it was not without a human side. After several years, Dr. Goodwin was approached by several members who offered to vote for his reinstatement as a member, which duly followed.

At the first meeting of the academy, Dr. E. Burke Haywood proposed that the old Confederate hospital, then a barracks for the union soldiers and east of the city, be used as a city hospital. A committee was appointed, but its approach to the Union officers came to naught. By 1875, Union medical officers were attending meetings of the academy and entering into the discussions which were unsuccessful. By 1892, the academy was approached by the trustees of John Rex's will suggesting that a hospital

for indigent women and children be established. The trustees had invested rather heavily in Confederate bonds and what remained of a large estate left in 1849 by Rex, a bachelor tanner who had died rich, was a single piece of land on West Lenoir Street in a low lying area ill suited for a hospital. The trustees then approached the State Board of Health about the matter. So the Supreme Court ruled that paying patients as well as the indigent could be treated at such a hospital.

The women of Good Shepherd Church had purchased an old house on West South Street at the end of Salisbury Street for a hospital, called St. John's, for indigent women and children. When it appeared that this hospital would not survive, they sold this edifice to Rex Hospital for a pittance. Thus, Rex Hospital was founded in 1849 when the trustees were selected according to Rex's will. It was built in 1893, enlarged in 1906, and moved to a new location on St. Mary's Street in 1939. It was moved recently to more commodious facilities on the corner of Blue Ridge Road and Lake Boone Trail.

Equally important to the academy members was their desire to be adequately paid. A concrete example of this resulted in 1872 in the Fee Bill which spelled out in detail just how much should be charged for a visit. It further stated that only under dire circumstances should a lump sum be considered for the treatment of one disease. In 1878, charges for a life insurance examination were included in the Fee Bill.

In 1893, after derogatory remarks by Dr. P. F. Hines, Dr. Hubert Haywood felt that his father had been denigrated as he lay dying. Bitter enmity between Dr. A. W. Knox and Dr. Hines followed, an attitude persisting for over six months when Dr. Knox made a public apology which was accepted by Dr. Hines. This conflict arose during discussion as to whether benevolent organizations were in fact insurance companies and whether the Fee Bill for examination should be allowed.

The Wake County Medical Soci-

ety, formed in 1903, had over the years assumed importance to all members of the profession and as it became more prominent, the influence of the academy waned until it became a voluntary medical society. Its influence was further diminished in 1939, when a bill was to be introduced in the legislature to allow any member of the Wake County Medical Society to be eligible for membership to the staff of Rex Hospital. Threat of legislation led the board of trustees of Rex Hospital to pass a resolution that any member of the Wake County Medical Society was eligible for membership on the staff of Rex Hospital.

In 1949, when the morale of the Academy seemed to be at its lowest, Dr. John S. Rhodes proposed that a one-day symposium be given each fall by the academy. His suggestion was enthusiastically received by the membership and the first symposium was held that November with a good attendance by physicians from surrounding counties.

These yearly symposia drew audiences up to 300, but over the years, there were conflicting events and the symposium became superfluous, so that in May, 1976, the academy discontinued this yearly event.

In 1965, the president, Dr. Chauncey L. Royster, grandson of founding member, Dr. Wisconsin I. Royster, appointed a committee to investigate all avenues and report back to the academy. For many years, the academy allotted monies to the Rex Medical Library, its true name being the Raleigh Academy of Medicine Library at Rex Hospital. The chairman of the committee, Dr. Alexander Webb, Jr., reported that arrangements had been completed with the director of the Dan Hill Library at N.C. State University and any member of the academy could, within 24 hours, obtain copies of journals containing articles needed for preparation of clinical and research papers from any of the libraries of the three medical schools, thus making effective a library second to none in importance.

The first of six proposals for the future of the academy stated that

the academy should be contrived as a social and scientific organization for (a) dissemination of scientific information; (b) selectivity; and, (c) a means of furthering the well-being of the medical profession into a brotherhood of mankind. The next resolution dealt with the symposium and the committee recommended that the symposium be strengthened and different sections of the symposium should be named for different members of the academy. These recommendations were passed in toto by the academy.

The next proposal, that the halls of departments at Rex Hospital be named either for an academy founder, an outstanding Raleigh family of doctors, or the first specialist to practice in Raleigh, was not passed. The last resolution pertaining to hiring a public relations firm failed to pass.

Dr. Albert Chasson then moved that the Raleigh Academy of Medicine donate \$150 each to the Rex Hospital Library, the D. H. Hill Library at N.C. State University and the Wake Memorial Library. This was passed by the academy. It is sad to report that the library services as proposed by the committee were never utilized by the members.

The year 1970 loomed as the 100th anniversary of the academy and planning for the observance was begun in 1968. In 1969, a crest was established as the Coat of Arms of the academy. The 25th, 50th and 75th had been celebrated with the 25th being a formal banquet with printed menus. Dr. Wisconsin I. Royster, the only living founder, charmed the audience with personal memoirs of the various founders. The 50th on February 2, 1920, was celebrated by a formal dinner at the

Yarborough House. The 75th was observed at the Sir Walter Hotel with Dr. Hubert A. Royster presenting a history of the academy.

The Centennial Year of the Academy was celebrated at the Angus Barn with a formal dinner with everyone appropriately attired. Dr. Hubert A. Royster, Jr., gave the address entitled "A Century of Heritage; Another of Hope" which was well received.

Since the founding 110 years ago the Raleigh Academy of Medicine has adhered to a policy of integrity and honorableness. Each generation of its membership has received the sense of its founding members and pursued these goals with the intention that although it carries no true weight in the practices of the profession, its spirit remains intact and firm.

### Scurvy

Their gums soon after become itchy, swell, and are apt to bleed upon the gentlest friction. Their breath is then offensive; and upon looking into their mouth, the gums appear of an unusual livid redness, are soft and spongy, and become afterwards extremely putrid and fungous; the pathognomonic sign of the disease. They are subject not only to a bleeding from the gums, but prone to fall into hemorrhages from other parts of the body.

Two dozen of good oranges, weighing five pounds four ounces, will yield one pound nine ounces and a half of depurated juice; and when evaporated, there will remain about five ounces of the extract; which in bulk will be equal to less than three ounces of water. So that thus the acid, and virtues of twelve dozen of lemons or oranges, may be put into a quart bottle, and preserved for several years.

I have some of the extract of lemons now by me, which was made four years ago. And when this is mixed with water, or made into punch, few are able to distinguish it from the fresh squeezed juice mixed up in like manner; except when both are present, and their different tastes compared at the same time; when the fresh fruits discover a greater degree of smartness and fragrantcy. — James Lind, 1753.

# The Raleigh Academy of Medicine

John S. Rhodes, M.D.

ONE hundred and ten years have passed since the founding of this academy, which provides the fellowship that we are enjoying here tonight. It is proper at intervals that we reminisce about the beginning and progress of this institution for it is upon the foundation of the past that the future must be constructed. On January 5, 1870, seven Raleigh physicians gathered at the home of Charles E. Johnson in the first block of Hillsborough Street to discuss the formation and adoption of the constitution and by-laws of what was to become today the oldest society of its type in North Carolina in continuous existence. Those present at the first meeting were, in addition to Dr. Johnson, E. Burke Haywood, immediate past president of the State Medical Society, who had been given credit for originating the idea; William G. Hill, William Little, Richard B. Haywood, James McKee and Wisconsin I. Royster. One month later at the Charter Meeting on February 2, 1870, Drs. W. H. McKee, Fabius J. Haywood, Sr. and Jr., were added to the founding group. William G. Hill became the first president. It was said that Dr. Hill was as brave as a lion and as gentle as a dove, but woe to the man who waked the lion! Descendants of the Haywood and Royster families are presently members of this society. Two McKee descendants, one a medical classmate of mine who lives in Morganton and another a fine citizen of Raleigh, have great-great and great grandfathers among founders.

They adopted the constitution of the Academy, embodying the stature and ideals of its members and revealed its objectives. First, the cultivation of the science of medicine; second, the advancement and honor of the profession; third, the elevation of the standards of medical care, and fourth, the promotion of the public health. In this day of burgeoning economic and social pressures, and escalating government regulations, it is appropriate to restate these goals lest we stray from them. Allow me here to give you a comment made by Betty Jane Anderson, attorney for the AMA, regarding the present argument with the Federal Trade Commission in which she said, "If Hippocrates were alive today, he would have to clear his oath with the FTC." That is about the truth; they are trying to class us as a trade rather than a profession.

It is difficult for us in this modern day of great advances in medicine to visualize the conditions confronting those founding physicians shortly after the end of the Civil War. Raleigh city limits were a little more than a mile square. Even as late as 1908, the Country Club was two miles from the Raleigh city limits. Those needing medical treatment or surgery who could afford a private physician were treated at home. The Raleigh Academy provided care for the indigent on a level accorded those barely able to afford such care. Transportation was by horseback, horse and buggy or on foot.

Academy meetings were held monthly either in the home of a member or in his office. Discussion of cases and new modes of therapy were usually the major portion of the agenda.

The first disciplinary action occurred March 8, 1878, when a member was suspended for "grossly immoral acts of conduct." It was also ruled that personal publicity and advertisement in newspapers was "repugnant to the high sense of honor that should govern the medical profession." Discussions, especially those considering questionable conduct were said to become quite heated. On one occasion it was reported that the session reached such intensity that one member placed a gun on the table. In 1883, a Board of Censors was appointed to review credentials of applicants and monitor questionable activities of members.

Meanwhile, St. John's Guild of the Good Shepherd Church had been trying with limited funds to operate a hospital for the indigent in an old house at the end of Salisbury Street, and that is where Rex Hospital ended up. John Rex, in 1848, had left in his will a sum of money and property to establish a hospital for the indigent. The money had been invested in Confederate bonds which were worthless at the end of the Civil War. Remaining was a small building located near the Raleigh Gas House on West Lenoir Street and a small financial return from the rent. A hospital commission appointed by the Raleigh Board of Aldermen, at the suggestion of the academy, ruled the low lying, swampy site unsuitable for treatment of patients. Then, upon the allotment of \$2,000 from the city, the St. John's Guild's property was acquired and the name changed to Rex, creating a hospital for the indigent. The academy was asked by the city to provide a board to operate the Rex Hospital. Shortly, space for private rooms and surgery were

Doctors' Building, Suite 407  
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Presented at the annual meeting of the Raleigh Academy of Medicine on Feb. 7, 1980, at the Angus Barn in Raleigh.

added. A Medical Library was originally established by the academy and has been continuously supported at Rex Hospital to the present day.

In 1902 the formation of the Wake County Medical Society precipitated much discussion about the status of the two medical groups. It was decided that the county society should be responsible for governing functions and the academy would meet quarterly for social and scientific sessions with membership in the academy restricted to resident physicians in the city limits.

In 1895, the 25th Anniversary Meeting of the Academy was held at the Yarborough Hotel located on the present site of the downtown Hudson Belk store. A few here tonight will recall with me facing the Board of Medical Examiners at the old Yarborough.

E. Burke Haywood and later Augustus W. Knox were responsible for most of the surgery during those early years of the academy. Dr. Haywood had administered the first ether anesthesia in Raleigh in 1858.

The year 1895 marked the arrival of Dr. Hubert Ashley Royster, son of the founding father, Wisconsin I. Royster. It was my good fortune to arrive here while two of the masters of medicine in the history of the academy were still active, namely Hubert Benbury Haywood and Hubert Ashley Royster. Dr. Haywood, son of Fabius J. Haywood, Jr. was a gentle man of even temperament, loved by patients and revered by his contemporaries. Both he and Hubert Royster served as president of the North Carolina Medical Society.

Soon after his arrival in Raleigh, Hubert Royster became the leading Raleigh surgeon, in fact the first physician in North Carolina to limit his practice to surgery. He was secretary of this academy for fifteen years. As a worker, leader, speaker and writer, he had few peers and became nationally recognized. In a book of his addresses published in 1937 entitled "Medical Morals and Manners," he agreed that preliminary education, four years of medical school and a license to practice medicine were minimum requirements for physicians, which he termed insufficient, citing three higher attributes of a real physician, namely, brains, culture and character. One other note from a chapter entitled "Women and the Doctor," apropos in these days of a controversy over ERA and the Armed Services drafts of women, is the observation, "It is not so important whether women be dependent or independent as both men and women should be interdependent." Personally may I observe that interdependence is a dominant characteristic of the majority of medical homes. The collective activities of the Medical Auxiliary strongly support that statement.

For many years Dr. Royster entertained the academy at his home on November 19, his birthday, always presenting a speaker of national prominence. Hubert Royster was highly literate, feisty, energetic and practical, keenly aware of and responsive to the medical ethic.

The 50th Anniversary was celebrated at the Yarborough Hotel honoring Wisconsin Royster, who gave a commentary on the character and attributes of the founders,

omitting any reference to himself. I wish you could read that, it is really very interesting. Hubert Royster reviewed the history of the academy.

The 75th Anniversary was convened in 1945 in the Sir Walter Hotel, with Dr. Vonnie Hicks, Sr. presiding. Hubert Royster was the toastmaster and Maj. Gen. George Lull, commanding officer at Fort Bragg, discussed the relation of medicine to the Armed Services. At that time membership in the academy was 56.

In 1948, stimulated by an undercurrent from some members proposing abandonment of the academy and with the beginning pressure for continuing education, a motion was passed to initiate an annual symposium to replace the fall quarterly meeting to which would be invited physicians in the surrounding counties to participate in a program delivered by prominent guests. The symposium continued annually through 1975 when, because of the plethora of symposia and seminars staged by teaching institutions and specialty societies and resulting in low attendance, the academy program was discontinued.

On February 2, 1970, at this site, the academy met to celebrate the 100th Anniversary. Dr. Hugh McManus presided and Dr. Hubert Royster, Jr. gave an address entitled "A Century of Heritage, Another of Hope." It is upon the foundation of this heritage that this academy rests and from which it will derive stimulus and inspiration to face the issues confronting medicine today and tomorrow.

# The Future of Medical Enterprise: Perspectives On Resource Allocation in Socialized Markets

Uwe E. Reinhardt

## INTRODUCTION

The W. K. Kellogg Foundation in celebrating its 50th anniversary sponsored a series of lectures which were delivered to a number of professional organizations. On November 5, 1979, Uwe E. Reinhardt, professor of economics and public affairs at Princeton University, delivered this lecture to the Association of American Medical Colleges at its 90th annual session. It would be presumptuous and superfluous to comment about his talk but in an age of instant authorities and seekers of single roads to salvation, it is refreshing and instructive to read such a balanced and lucid analysis. Although two years have elapsed since the talk was presented, the time has only made his comments more pertinent. The *North Carolina Medical Journal* is indebted to Mr. Reinhardt and to the *Journal of Medical Education* for permission to reprint this article which appeared in that periodical (55:311-324, 1980).

J.H.F.

SOMETIME during the 1970s our nation is said to have contracted a disease that was subsequently diagnosed, by our leader, as a case of acute malaise. Precisely what troubles us is much debated. But it can hardly be doubted that anxiety over the nation's economic health is one of our concerns.

In the health care sector the disease has progressed beyond malaise. Symptoms presented during recent conferences, in testimony before Congress, or at health care cocktail parties point to the early stages of paranoia. There are ru-

mors that health care resources are finite. There are rumors that the government will attempt to constrain the future growth of national health care incomes to the growth of the gross national product. (National health care expenditures represent, dollar for dollar, someone's health care income. In a sense, then, policies aimed at constraining health care expenditures can be legitimately viewed as a direct assault on someone's actual or potential income.) There are rumors that the real income of physicians may one day decline and already may have done so. And near pandemonium breaks out whenever someone breaches the time-hallowed tabu against using the words "health care" and "rationing" in the same sentence.

In a mental state such as this, Americans should seek professional treatment from their economists. The profession's palliatives come in two forms. First, economists have a penchant for predictions which, although rarely ever on the mark, nevertheless contribute significantly to American humor — and therein lies a form of relief. Alternatively, economists can administer judicious doses of perspective. While these perspectives rarely humor anyone, they are known to have retrieved patients from even advanced stages of paranoia to the more manageable state of "enlightened resignation." It is a cure of sorts.

In the following I shall attempt therapy of the second sort. After a brief view at a few pertinent macro-economic indices, I shall seek to diagnose the true nature of the eco-

nomic dilemma faced by the health care sector. I shall argue that this dilemma is less an economic than an administrative one. There will follow suggestions of certain pedagogic therapies that might help future alumni of medical colleges cope more cheerfully with their seemingly hostile economic and administrative environment. Ever conscious of my profession's reputation as the "dismal science," I shall conclude my remarks with some somber perspectives on the financing of medical education, a subject that bears directly on the central concern of this essay, the future of medical enterprise in this country.

## Observations on the Economy

In seeking to diagnose our current malaise, one had best begin with one of the more tractable symptoms, namely, the widely shared feeling that we are poorer now than we were before and that our quality of life — including the quality of our health care — has suffered erosion. Tables 1 to 3 provide perspective on this point.

It is seen in Table 1 that real gross national product per capita rose by over 20 percent during the eight-year period 1970 to 1978. Per capita disposable income and consumption expenditures rose even faster. Some individuals may be poorer in 1979 than they were in 1970. Doctors, for example, may possibly be somewhat less well paid (Table 4), and professors certainly are. But on the average Americans are better off; there can be little doubt about that.

There are, to be sure, some wor-

**TABLE 1**  
**Gross National Product and Personal Income, 1970 and 1978**

Categories	Per Capita, 1972 Dollars		Percent	
	1970	1978	Increase	Average Annual Compound Growth
Gross national product	5,248	6,338	21	2.4
Personal disposable income	3,619	4,418	22	2.5
Personal consumption expenditures	3,265	4,078	25	2.8

SOURCE: *Economic Report of the President*. Washington, D.C.: U.S. Government Printing Office, Jan. 1979, Tables B-2 and B-22, pp. 189, 213.

risome signs that might warrant a mild migraine. For reasons too complex to be explored here, economic growth in the United States abated markedly sometime after the mid-1960s, as is indicated in Table 2. Because the decline in the growth rate precedes by many years the sharp increases in energy prices following the 1973-74 oil crisis, its origins must be sought in other factors which have been long building up within our own economy. The nature of these factors suggests to economists that average productivity growth during the next several decades, although positive as before, will not soon again reach the quick pace of the early post World War II decades.

Aside from a sluggish future growth in productivity, the ever increasing cost of energy will impose, of course, an additional burden on our national income. This so-called energy tax is cause for some concern but certainly not for hysteria. On this point economist Thomas C. Schelling<sup>1</sup> has observed that in the medium to long run the added cost of domestic and imported energy is "equivalent to a deadweight tax of up to 5 percent on our GNP in perpetuity, or equivalently, a leftward displacement of our GNP growth

curve by a couple of years, from and after about the year 2000." While the absolute magnitude of the "tax" estimated by Schelling ranges in the hundreds of billions per year — and while it is certainly nontrivial even if expressed as a percentage of GNP — no one need fear that the energy tax alone will bankrupt this nation.

Of course, socially irresponsible reaction to the tax might wreak havoc. An irresponsible reaction to the tax, for example, would be a refusal on the part of organized labor or of organized professionals to shoulder any portion of this tax. Hard collective bargaining might succeed in passing off most of the tax to persons with fixed nominal incomes — including segments of the aged. The vehicle for this transfer of the tax burden would be inflation. In other words it is not in the main the OPEC price increases per se that cause our inflation but our society's reaction to these price increases. At the risk of becoming yet another American humorist, then, I would predict that toward the end of the 1980s our real capita income will be higher, once again, than it was a decade earlier, although it will certainly be lower than it could have been had we been luckier, thriftier, and more industrious than we have

**TABLE 2**  
**Labor Productivity Growth in the United States, 1948-1978\***  
(Percentage Change Per Year)

Type of Labor	1948 to 1955	1955 to 1965	1965 to 1973	1973 to 1977	1977 to 1978†
Private business economy	3.4	3.1	2.3	1.0	0.4
Nonfarm	2.7	2.6	2.0	.9	.6
Manufacturing	3.3	2.9	2.4	1.5	2.5
Nonmanufacturing	2.4	2.4	1.7	.6	-.3

\*Data relate to output for all persons per hour paid.

†Preliminary figures.

SOURCE: *Economic Report of the President*. Washington, D.C.: U.S. Government Printing Office, Jan. 1979, Table 15, p. 68.

recently been and are likely to be in the near future.

Within this macroeconomic picture the nation's health care sector has fared particularly well during the 1970s. As shown in line 1d of Table 3, the sector's share of gross national product has been permitted to increase by an average compound rate of 2.3 percent per year, from a share of 7.6 percent in 1970 to 9.1 percent in 1978. After adjustment for general price inflation and for growth in the population to be served by the health care sector, its resource allocation, measured in terms of real generalized purchasing power (line 11b in Table 3), rose by an annual compound rate of 4.9 percent, that is, by almost 50 percent over the entire period from 1970 to 1978. By almost any standard, this strikes one as a series of generous appropriations for the task at hand.

Some of the health sector's appropriations of real (constant dollar) general purchasing power appear to have been absorbed by higher input prices (including prices paid per hour of time supplied by health workers) and, possibly, also by inefficiencies in the production of health services. These allocations of purchasing power must have enhanced the quality of life of health workers and of suppliers to the health care sector (although probably not the quality of health care delivered to patients). But even after adjustment for this phenomenon, the health care sector's allocation of real resource inputs is seen to have increased at a relatively high rate during the 1970s. This conclusion emerges from lines 1c and 11c of Table 3, which present health care expenditures deflated by a price index specifically for health services. Line 11c suggests that the allocation of real resources per person to be served increased by about 30 percent during the 1970s, that is, by an annual compound rate of 3.4 percent. It will be recalled that real gross national product per capita rose by only 2.4 percent per year during the same period.

In short, then, within its overall resource budget, society has seen fit during the last decade to appropriate fairly generous budgets for



**TABLE 3**  
**Resource Allocation to the U.S. Health Care Sector, 1970-78**

Item	Expenditures on Health Care		Percent Increase	
	1970	1978	Period 1970-1978	Average Annual Compound Rate
I. National health expenditures (billions of dollars)				
a. Current dollars (undeflated)	74.7	192.4	159	12.6
b. Deflated by the implicit price deflator for the GNP*	80.8	128.1	58	5.9
c. Deflated by the implicit price deflator for personal health†	82.8	116.8	41	4.4
d. As a percentage of gross national product	7.6	9.1	19.7	2.3
II. Personal health care expenditures per capita				
a. Current dollars (undeflated)	315.4	753.0	139	11.5
b. Deflated by the implicit price deflator for the GNP*	340.9	501.3	47	4.9
c. Deflated by the implicit price deflator for personal health†	349.7	456.9	31	3.4

\*Figures deflated by the implicit GNP deflator indicate the amount of generalized, real purchasing power society has been willing to allocate to the health care sector. It is an opportunity-cost concept. The values of the deflator are: 1970 = 92.5, 1972 = 100, 1978 = 150.3.

†Figures deflated by the implicit deflator for personal health care represent an estimate of the growth of real-resource input into the health care sector. The values of the deflator are: 1970 = 90.2, 1972 = 100, 1978 = 164.8.

SOURCE: Data on the GNP price deflator calculated from the *Economic Report of the President, 1977*, Table B-22; all other data from Robert M. Gibson, National Health Expenditures, 1978, *Health Care Financing Review*, Summer 1979, Tables 1 and 2, p. 22.

the health care sector. Out of these budgets the sector has been able to pay well for the human labor and the material inputs it uses; and with these inputs it should have been able to enhance significantly the quality of health care rendered society, which it most probably did.

Whether society will continue to increase its appropriations to the health care sector at rates in excess of the growth of gross national product is an open question. Logic dictates that society cannot do so indefinitely. On the other hand, as I have argued elsewhere, society could certainly continue to do so for one or several more decades.<sup>2,3</sup> Whatever one's assessment of future trends in this area may be, however, it is doubtful that even a concerted effort at cost containment will succeed, during the 1980s, in reducing the growth of national health expenditures to or below the growth of gross national product. At this time it seems a safe bet that society will decide, or be forced, to transfer to the health care sector continued increases in the amount of real (constant dollar) generalized purchasing power per person to be served by that sector. These appropriations may well be less than

the health care sector would wish, but they are apt to increase nevertheless. Out of these appropriations those working in the health care sector ought to be able to (a) pay

themselves and their suppliers handsomely (the fact that, for example, real physician incomes may be declining somewhat [Table 4] does not mean, of course, that even these lower incomes are not "handsome") and (b) at least maintain and undoubtedly enhance the quality of health care delivered to society. The much voiced fear that the quality of health care in this country is imperiled by current economic trends seems to be unfounded. (Spokespersons for the health care sector sometimes pretend that mere containment of the growth of real health care expenditure [as distinct from the absolute level] will lower the quality of health care. I have always marveled at the discipline it must take to do this with a straight face.)

### Arbitration of Conflicts

A Martian diagnostician might have some difficulty tracing our malaise to the macroeconomic statistics presented above. Without further probing, that diagnostician might well agree with Professor Edward Wynne<sup>4</sup>, who recently opined that it "is a form of narcis-

**TABLE 4**  
**Changes in Real Median Net Pretax Practice Income of American Physicians in Private Office Practice, 1973 to 1978**

Specialty and Type of Practice	Median Net Practice Income			Percentage Change in Real Income	
	1973 (in 1973 dollars)	1978 (in 1978 dollars)	1978 (in 1973 dollars)	1973-1978	Average Annual Change
Unincorporated M.Ds					
General practitioners	37,890	45,670	31,100	-17.9	-3.9
Family practitioners	40,630	58,130	39,590	-2.6	-0.5
Internists	43,100	53,700	36,570	-15.2	-3.2
General surgeons	47,290	62,500	42,560	-10.0	-2.0
Obstetrician/gynecologists	51,830	63,210	43,050	-16.2	-3.5
Pediatricians	38,330	49,060	33,410	-12.8	-2.7
All surgical specialists	49,550	62,210	42,370	-14.4	-3.1
All nonsurgical specialists	41,810	54,170	36,890	-11.8	-2.5
All fields	42,140	54,700	37,250	-11.6	-2.4
Incorporated M.Ds					
General practitioners	55,500	71,030	48,370	-12.8	-2.7
Family practitioners	55,000	66,940	45,590	-17.1	-3.7
Internists	58,750	73,610	50,130	-14.6	-3.1
General surgeons	67,500	88,750	60,440	-10.5	-2.2
Obstetrician/gynecologists	72,500	88,400	60,200	-16.9	-3.7
Pediatricians	55,000	67,050	45,660	-17.0	-3.7
All surgical specialists	72,500	93,670	63,790	-12.0	-2.5
All nonsurgical specialists	65,000	76,300	51,960	-20.0	-4.4
All fields	67,500	82,260	56,020	-17.0	-3.7

SOURCE: Adapted from: Arthur Owens, Doctors' Earnings: Look What's Happening to Your Buying Power, *Medical Economics*, 56: 192-193, Sept. 17, 1979. (There were 2,034 usable responses to 14,822 mailed questionnaires.)

sism for the most prosperous and best educated group of Americans in our history to contend that the problems now facing our society are significantly more difficult than those in our past. After all, we also have more problem-solving resources than ever before."

Although the professor has a point, his judgment may be too harsh. Narcissistic we undoubtedly are, as were, however, our parents and their forebears. The question is whether this chronic human affliction has become more acute in our time. One could offer the contrary hypothesis that we are slightly less narcissistic than were our elders — that we are much more concerned than our forebears with the attainment of equity in the distribution of society's resources. Unfortunately, in seeking to act on that concern, we have been forced to impair systematically the mechanism through which our forebears so conveniently settled social conflicts over the allocation of society's resources. I am speaking here of the secular erosion of private market forces as social arbiters and of our failure, so far, to replace that form of arbitration with a generally accepted alternative. Because this issue is central to our debate on national health policy, I will pursue it at greater length.

Earlier generations of Americans were generally content to settle most of their disputes over resource allocation with appeal to private market forces, perhaps in the hope that everyone who really tried would be given a turn at good fortune in these markets. Economists from Adam Smith on have celebrated this form of arbitration for at least two reasons. First, private market arbitration tends to allocate resources efficiently, that is, to those who value them most. Second, arbitration through private markets affords a decision-maker a high degree of personal discretion, subject only to the individual's budget constraint. Given that constraint, most other systems of arbitration — certainly most administrative/political ones — offer the individual less freedom of choice.

It can be asked, in view of these

virtues, why a sensible society would ever wish to abandon private market arbitration in favor of alternative systems, often over the strenuous objections of economists. Indeed, it can be asked why society's political representatives fail to appreciate what is so plainly obvious to economists.

The answer may be, in part, that the economist's normative pronouncements on this subject matter are suspected of being subjective and thus political. The typical economist in our society tends to occupy a rather favorable position in the nation's income distribution — a position reached by a combination of intelligence, effort, and, lest we forget, sheer luck (including, possibly, a favorable lineage). From this relatively felicitous vantage point, "freedom of choice" is apt to be greatly valued because there is much budgetary leeway to exercise that freedom to personal advantage. Furthermore, from that vantage point an efficient allocation of society's resources is apt to appear pleasing because that celebrated state implies that resources have flown to those individuals willing and able to bid the highest prices for them, that is, to persons with high incomes, however begotten.

Economists usually recognize this dimension of the concept of efficiency. To sidestep the moral dilemma it raises, they almost invariably accompany their missives on private market arbitration with silent prayers that the underlying distribution of income be "just." On the tacit assumption that these prayers will be answered, economists then feel safe in elevating the state of economic efficiency to a socially desirable end in itself. Those who tend to find the economists' normative pronouncements in this area lacking in moral force — politicians among them — argue that economists typically abstract all too conveniently from the possibility that their silent prayers will not be answered after all. That criticism is not easily dismissed. At the very least, economists ought to go to much greater length than they normally do to demonstrate why rationing of economic privilege

through private market forces is morally superior to other forms of rationing. It turns out that in a world permitting large bequests within families, such a demonstration is not easily accomplished, as economists all too quickly realize in lectures to intelligent undergraduates.

Now it may be argued that while private market arbitration is not invariably equitable, it is impersonal and, therefore, more likely to be accepted by individuals than would be other, more personal forms of arbitration. The notion here is that appeal to the impersonal forces of "supply and demand" tends to have roughly the same soothing effect on the individual as does appeal to "kismet" in certain fatalistic cultures. To quote from a recent editorial in *The Wall Street Journal*<sup>5</sup>:

Classical economists used to list among the virtues of the price mechanism that it avoided social strife. It did not set group against group, they taught. In our lifetime we have protected the poor with income transfers to insure a minimum standard of living, but we have generally allowed prices to allocate goods among different end uses. It has worked so smoothly we did not understand what the classical economists meant; today we see. In addition to its economic virtues, the price mechanism is a vital buffer of civility.

Although there is something to this proposition, two caveats may nevertheless be registered.

First, like economists, the editors of *The Wall Street Journal* are likely to find themselves at or near the top of the nation's income ladder, once again through a combination of effort and luck. Mere distance from the lower rungs may be the buffer of civility whereof the editors write. An observer perched atop the income ladder rarely has occasion to witness — let alone to suffer — the indignities private market arbitration can visit upon quite innocent individuals, for example, the offspring of poor families or broken homes, whom mere misfortune has cast to the bottom of the nation's income scale. Unless these losers vent their anguish in unison, as they do from time to time in urban riots, those at the top of the scale may easily mistake muted and distant anguish as a sign of "civility," and the associated distribution of resources as civilized. It may be a

comforting mistake, but a mistake nevertheless.

Second, while it may be true, historically, that Americans have accepted the verdicts of private markets with equanimity, it is not clear that this cultural trait has survived to the modern age. Indeed, *The Wall Street Journal's* editors might test their own hypothesis on this point by descending, on their way home to the suburbs, in either Harlem or the Bronx or by taking leisurely strolls through the blighted areas in any of our cities, which are, after all, products of a society dominated still by private markets. Should the editors survive their inquiries — an assumption not to be taken for granted — they might then wish to amend their editorial. They may discover that, like Rodney Dangerfield, the verdicts of private markets increasingly seem to “get no respect no more.”

My purpose in the preceding paragraphs has not been to advocate the abolition of private markets — far from it. By years of training in economics and a comfortable income position I, too, am quite favorably disposed to private market arbitration. Rather, my purpose in this section has been to remark that, for better or for worse, certain classical perceptions of private markets may be out of step with recent social developments. For better or for worse, society's attitude toward private market arbitration appears to be in the process of change, a process of long duration that seems to have accelerated in recent decades.

As noted previously, the apparent civility of private market arbitration may not be universally appreciated. Beginning with the union movements of the late nineteenth century, there have been attempts to check the more painful ledger-demain of the proverbial “invisible hand.” The union movement sought protection through the simple device of labor-market cartels. In more recent decades sundry interest groups — for example, farmers, the airlines, the trucking industry, and even single, huge corporations — have succeeded in using the political process to rig the

market in their favor. The typical mechanism here has been the regulatory process or outright public subsidy. Finally, society has seen fit to guarantee all citizens access to certain basic commodities — first to public education, then to higher education and health care, and next to basic food stuffs and low-rent housing. Sooner or later the notion will be extended to basic quantities of energy as well. Whether this phenomenon represents *noblesse oblige* or merely a preemptive protective reaction to possibly uncivilized conduct on the part of the lower income classes is an intriguing question. In any event, and for better or for worse, the trend toward increasing socialization of access to consumer goods seems unmistakable.

As *The Wall Street Journal* suggests in its editorial — and as economists can demonstrate with appeal to economic theory — the preferred approach to guaranteeing access to certain commodities is, in principle, an appropriate redistribution of income. Such transfers, however, redistribute generalized purchasing power, which is apt to spill over also on commodities society does not wish to redistribute. Because of these spillovers, the income transfers that would be required to guarantee a satisfactory distribution of a few basic commodities appear to exceed the political tolerance for simple income transfers. The political compromise, therefore, has been to redistribute specialized forms of purchasing power that can be spent only on the desired target commodities. Thus, we have non-transferable entitlements, for example, to free schooling, free health care, and low rental housing.

These entitlements, of course, must be collectively financed somehow. One may refer to this fiscal mechanism as the “socialized financing” of commodities and to the latter themselves as “socialized commodities,” where the degree of socialization may be either partial or complete. Used in this fashion the term does not necessarily imply that the collective budget be publicly administered. A private health insurance pool, for example, repre-

sents a form of socialization as well. Nor does use of the term in this context imply production of the commodity by the public sector. The socialization of health care financing does not inevitably imply socialized medicine as the latter term is commonly understood.

By design, the socialization of a commodity leads to a partial or complete displacement of private market arbitration by some alternative mechanism, usually an administrative one. This change in the form of arbitration probably lies at the root of most of our modern economic dilemmas. For while the verdicts of private market arbitration had traditionally elicited only muted protest from individual losers (occasionally, as noted, the losers do protest audibly, as was evidenced during the urban riots of the late 1960s), the verdicts of administrative arbitration in socialized markets tend to elicit vociferous comment from the various interest groups positioned around the corresponding collective budgets, especially from the providers who have come to look upon these budgets as a source of economic mainstay. Ironically, then, society's attempt to produce for certain basic commodities more civilized allocations among members of society requires a form of conflict resolution that typically sounds and seems less civil than traditional private market arbitration. (I do not wish to imply that socialized markets are always ethically superior to private markets. Surely such judgments are (a) a matter of personal taste and (b) a function of the commodity in question. Indeed, I shall argue further on that the degree of socialization of the market for medical education may already have gone much too far.) A casual thinker can easily be seduced by this requirement for a new means of conflict resolution into believing that the nation's economic problems have intensified when in fact, the purely economic aspects of the problems are not severe at all and the heart of the problem is lack of administrative ingenuity. In what follows I shall examine this problem further, and

strictly within the context of the health care sector.

### Socialized Arbitration

Most Western democracies have by now completely socialized the financing of their health services. In the United States the process is as yet incomplete, but it has progressed quite far as well. Furthermore, it is a safe bet that those remnants of the health care sector still functioning as essentially private markets, which is not to say as "freely competitive markets," will sooner or later come under socialized financing as well, even if primarily through private health insurance pools.

As noted, the decision to socialize the financing of a commodity requires society to supplant private market arbitration of resource conflicts with some alternative mechanism. This changeover has been found extraordinarily difficult. Therefore, we have sought to avoid it or at least to postpone it. Thus, to spare the administrators of collective health care funds, private or public, the agonizing trade-offs earlier generations had routinely imposed on private households, we have permitted these administrators to smother with our collective funds any impending resource conflict within their purview. The policy has been expensive, as is well known. Worse still, it has had the deleterious effect of fostering among health care providers the notion that society's health care budget has extraordinarily flexible limits.

For a fleeting few years our attempt to run away from budgetary trade-offs seemed to succeed. Although real resource trade-offs were, of course, unavoidable, these trade-offs were forced upon patient and physician by temporary limits on physical capacity. That ad-hoc form of trade-off seems to have been preferred, presumably because it is always easier to muddle through with temporarily fixed physical capacity than to impose budgetary trade-offs on an environment with ample physical capacity.

A policy to smother conflicts over resources with funds obviously must self-destruct in the end

because the perceived readiness to pay for any and all claims on resources tends to elicit added physical capacity. Eventually the budget will fail to outrun physical capacity and will be surpassed by it. In the health care sector that stage seems to have been reached sometime in the mid-1970s, when its physical capacity seems to have outgrown our willingness to finance the associated annual operating costs. (The most stunning concrete symbol of this phenomenon is Woodhull Hospital in New York, a hospital so extravagantly capitalized that the city literally cannot afford to operate it. The hospital has so far stood finished but unused.) One can trace to that time the onset of an endless series of conferences on "the emerging [sic] need for rationing and trade-offs in health care."

The titles of these conferences make for humorous reading, and even more so the ponderous themes that were struck. Some extremely clever or confused souls, having observed that the rapid growth of Medicare and Medicaid coincided with the perceived "novel" requirement for trade-offs in health care, even went so far as to cull from this coincidence the causal inference that rationing is a consequence uniquely of government intrusion into the health care sector. The logical implication, also frequently put during these weighty discussions, was that rationing could be avoided altogether simply by returning the health care sector to the care of private market forces.

One is inclined to shrug off such strange propositions when they are proffered by spokesmen whose mandate may require them, occasionally, to obfuscate public discourse through the judicious interjection of patent nonsense. The truly alarming phenomenon is that the belief seems to have wide currency also among commentators who offer it without intention to deceive. Because private medical practitioners are so heavily represented in the latter group, one sees in this thought pattern a challenge to their educators.

What would one teach a prospective physician on this point? Obvi-

ously, one would remind him that the concept of rationing in health care predates the onset of Medicare and Medicaid and even the birth of Senator Edward Kennedy. Indeed, one traces its origin all the way back to Genesis 3, where one is told of man's fall from grace. The need for rationing — and, incidentally, for the economics profession as well — dates to that cataclysmic day; for ever since Adam and Eve decided to supplement their hitherto free lunches with the forbidden fruit, there have been no free lunches at all — not in apples, not in health care.

Health care providers in this country, and especially physicians, must eventually come to appreciate that society's options on the issue of rationing in health care are confined strictly to alternative forms of rationing. We can ration largely through private household budgets, we can ration largely through collective private insurance budgets, we can ration largely through collective public program budgets, or we could select from among numerous mixtures of these three. In a good many instances economists may be able to offer truly objective commentary on the relative merits (that is, efficiency) of these options, as long as the ultimate outcomes associated with them remain roughly identical. Where outcomes change, however — for example, where different options imply different distribution of economic privilege across members of society — the choice of options becomes a matter of personal (subjective) preference, which, as noted, is apt to be strongly influenced by one's position in the nation's income scale. It is as simple and yet as complicated as that.

Because our society seems to prefer collectivized financing of health care, physicians should be taught to accommodate themselves to the natural consequence of society's choice: the arbitration of conflicts over health care resources through the individual budgets of private households. (To repeat, the crucial factor here is not that some of these collective budgets are publicly administered but that they are collective budgets. After all, the

debate over resource allocation has been just as vigorous in, say, Holland and West Germany, where health insurance is fully in the hands of private administrators, or in the board rooms of our privately administered Blue Cross-Blue Shield plans).

Concretely, this will mean, for example, that a medical treatment agreed upon by a physician and his patient may not be ratified with collective funds. This prospect requires a novel perspective on the patient-doctor relationship. Physicians customarily remind one that they treat patients as individual human beings while policy-makers treat them as actuarial abstractions. Occasionally, this sentiment is translated into the proposition, put to me not long ago by a physician, that "an acceptable health care system is one in which patient and physician decide what treatment is to be applied and someone pays for it (presumably at the physician's usual and customary rate of hourly income)." I am very much afraid that this pastoral image of the health care process is obsolete. In the final analysis, the administrator over a collective health care budget must decide which treatment will be financed and which will not and how much should be paid for those treatments that are to be financed. The administrator's decisions will inevitably be based on some actuarial benefit-cost calculus and thus impose upon the delivery of health care value judgments other than those of the physician and his patient. Unless the latter can somehow find an alternative source of finance, the physician will be effectively forced to adopt an actuarial perspective in matters of medical treatment as well. The physician will be tempted to protest that some distant administrator has penetrated the doctor-patient relationship and seeks to practice medicine from afar. In fact, of course, the administrator has merely exercised his right, indeed duty, to decide what type of medicine will be paid for collectively. It can be asked whether the current curriculum of our medical schools prepares future physicians adequately for medical

practice within this novel economic environment.

Physicians will also need to learn to participate more constructively than they hitherto have in determining their financial claims on collective health care budgets. In the United States that thorny problem has so far been evaded by recourse to the system of "usual, customary and reasonable fees" (UCRs). The UCR system can be said to have economic legitimacy only as long as it is firmly anchored in fees determined in well-functioning private markets. Under those circumstances the system might be defended as an adaptation by collective budgets to private market arbitration. Where private market arbitration has been substantially or completely eroded, the concept of the UCRs ceases to have economic legitimacy and some administrative mechanism must override it. In principle, the replacement could be an imposed set of fee schedules. Negotiated fee schedules are an alternative. (Other than fee-for-service systems could, of course, be negotiated or imposed as well.) Negotiated schedules would permit the medical profession to participate constructively in arbitration over their incomes. Such schedules are now used in Canada, France, and West Germany. The question is whether physicians in this country are of a mind-set even to contemplate a reimbursement system based primarily on collectively negotiated fees (and/or incomes). If not, the curriculum of medical schools faces yet another challenge.

In formulating a view on physician incomes, the administrators of collective budgets are unlikely to abstract completely from the supply of and demand for medical manpower. All available evidence points to a sustained rise in our physician-population ratio for at least the remainder of this century. Running, as it does, against concerted attempts to constrain the future growth of the nation's health care budget, this secular trend in medical manpower is apt to exert downward pressure on the individual physician's net practice income.

Recent data on physician incomes, presented in Table 4, suggest that pressures in this direction may already be at work. There appears to have been a decline in the average median net income of physicians, a tendency observable in all specialties. Although the tabulated averages may reflect, in part, a deliberate trade-off of income for added leisure time, and also a relatively larger representation of recently graduated physicians, it may well be the case that on the average real physician income peaked sometime in the mid-1970s and may not rise again for some time.

At this time the physician's income is still subject to private market forces because charges even for insured services often exceed the fee reimbursed by the insurer, leaving the patient to absorb the balance. The medical profession, therefore, cannot but accept a decline in real income as largely the verdict of market forces. The question is whether physicians would be prepared to accept a similar decline, under similar market conditions, but within a regime of comprehensive national health insurance. There might be a tendency to interpret such trends as open hostility. In fact, of course, the administrators of collective health care budgets might simply be simulating trends that would otherwise have been produced by private market forces. On this point, too, careful education could equip the prospective physicians with a balanced perspective, one that departs from the peculiar notion that real incomes of particular types of manpower may never fall, regardless of the overall supply of that type of manpower. One cannot forgive a labor union that odd notion — and one should not — much less so the members of a highly trained and, presumably, a highly educated profession.

### Desocialization of Medical Education

In the previous section I concluded that society seems bent on socializing ever more extensively the market for physician services. My objective has not been to commend or condemn this tendency but simply to remark that it seems man-



ifest, for better or for worse. While physicians may prefer to fight this trend, they may not be able to arrest it in the end. In view of that contingency, medical educators probably should prepare their future alumni to accommodate themselves constructively to the requirements of medical practice within socialized markets.

There is, alas, one market whose gradual but extensive socialization physicians have accepted quite readily, namely, the market for medical education. As is well known, a high proportion of the full cost of a medical education in this country is now borne by collective budgets, largely public budgets. Most other nations have gone even further in this direction by eliminating tuition charges altogether and by paying medical students a living allowance outright. The objective in every case is to guarantee all candidates access to medical education. In the words of the Association of American Medical Colleges (1978-79 Annual Report), "Continuation of financial assistance to medical students is essential if the medical profession is not to be limited to individuals from the upper socio-economic strata of our society."

While the theory espoused by the AAMC has had broad appeal during the 1960s, it appears that recently there have developed some doubts about its merits, at least in the United States. Moves have been afoot at the federal level and in some states to transfer a greater share of the cost of medical education to the student. Ironically, then, while the trend toward increasing socialization continues apace in the market for physician services, society seems bent on desocializing at least to some degree the market for the physician's education.

According to published reports, the government's insistence upon first socializing medical education during the last decade and upon now desocializing it has evoked in the AAMC's leader, Dr. John A. D. Cooper, the imagery of "a fellow who gets a girl pregnant [and] then walks away claiming it's no longer his responsibility."<sup>6</sup> The imagery

ought to evoke sympathy for the maltreated damsel. The question is whether she should count on it. In concluding this essay, I would like to conjecture on the posture economists are likely to adopt on this facet of resource allocation. It will be one more somber thought for which both medical educators and their students had better be prepared.

Economists, never known for their gallantry, will almost surely leave the damsel in distress. First, they will intone, with righteous indignation, that the damsel ought not to have played around with that fellow [Uncle Sam] in the first place — that she ought to have remained virtuous like her cousins, the law school and the business school. Next, they will argue that a gradual but sustained shift of the cost of medical education from the public purse to the medical student would be not only efficient on purely economic grounds but also commendable on ethical grounds.

In making this case, economists portray professional training of any sort as an investment in human capital. (No economist would assert that pecuniary factors dominate occupational choice to the exclusion of all other factors. In selecting an occupation, candidates first of all confine their search to options that seem compatible with their perceived aptitudes. It can also be supposed that candidates have distinct preferences concerning their future social role. It would be hard to believe, however, that modern medical students in the United States and elsewhere typically chose their careers completely in abstraction from pecuniary reward. This is, of course, neither shameful nor surprising.) There are basically three reasons why investments of human capital — or, for that matter, investments in physical capital — might warrant public subsidies:

1. Individuals investing in alternative activities receive public subsidies, and so horizontal equity calls for a subsidization of the particular investment in question.

2. In the absence of the subsidy, the overall level of investment in the

activity would fall below the level society deems adequate.

3. Society wishes particular subsets of individuals (for example, members of minority groups or women) to invest in the activity in question, perhaps to the exclusion of other groups.

In the case of medical or dental training, the first of these reasons can be dismissed as basically invalid. Few persons receiving graduate professional education ever receive anywhere near the level of subsidies routinely accorded medical students. In fact, many of them, for example, students of law or business, do not receive any significant subsidy from the public sector. More important still, persons seeking to invest in nonprofessional economic activities, for example, a service station, do not now receive any public subsidy in their endeavor, although their tax rates are identical to those borne by professionals with identical taxable income.

The second reason would have validity in periods of acute health manpower shortage. During the early 1960s, for example, a temporary subsidization of medical schools could have been justified on this ground alone. Although no one can claim to know precisely what number of physicians represents an adequate supply for the United States, there is an emerging consensus that the current and future supply is ample. A perceived health manpower shortage is hardly any longer a valid justification for continued public subsidies to medical education. Indeed, by discouraging entry into a field that seems widely judged soon to be excessively supplied, a policy to raise tuition substantially might actually contribute to greater efficiency in the allocation of human resources.

This leaves one with the third reason, namely, the notion that medical education needs to be heavily subsidized to provide all segments of society easy access to the medical profession. On the surface this proposition has a certain intuitive appeal. That appeal erodes upon further thought.

A medical education is, as noted,



an investment in human capital. It is an investment that propels the medical student, from whatever socioeconomic stratum he may come, into one of the nation's highest income brackets. A policy to finance this propulsion out of broad-based taxes is apt to redistribute wealth from the lower- and middle-income groups to an upper-income group in society, that is, its incidence is apt to be regressive and thus not readily defensible on ethical grounds. Furthermore, it can be shown that long-term amortization of the full cost of a physician's education as a tax-deductible charge against the physician's income would hardly constitute a severe burden on the physician's economic position.<sup>7</sup>

The conventional argument against this option has been that substantial further increases in medical school tuition would automatically eclipse students from lower income families (especially minority candidates) from entry

into the medical profession. That argument would have force in the absence of a readily accessible and generous loan program. On the other hand, if an adequate loan program were made available to all medical students — as it clearly should be — a sensible person would have difficulty in viewing as discriminatory a policy requiring the benefactors from an investment to amortize the true cost of that investment out of their future incomes, especially when the totality of these costs would rarely exceed two to three years' future income. Members from low-income groups choosing to invest in, say, a service station now are asked to bear precisely such amortization. The question can and probably will be asked why such persons should be required to subsidize with their taxes the occupational investment of their more fortunate peers accepted by medical schools.

A more careful discussion on the

financing of medical education obviously lies beyond the compass of the present essay. My objective in raising the issue here has been merely to link that topic to the phenomenon of socialized markets and to the problem of resource allocation in the health care sector. Resolution of this particular issue will influence strongly the nature of medical education in this country and, indirectly, the cost of the medical enterprise.

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#### Cirrhosis

The liver, reduced to a third of its ordinary size, was, so to say, hidden in the region it occupied; its external surface, lightly mamellated and wrinkled, showed a greyish yellow tint; indented, it seemed entirely composed of a multitude of small grains, round or ovoid in form, the size of which varied from that of a millet seed to that of a hemp seed. These grains, easy to separate one from the other, showed between them no place in which one could still distinguish any remnant of liver tissue itself; their color was fawn or a yellowish russet, bordering on greenish; their tissue, rather moist, opaque, was flabby to the touch rather than soft, and on pressing the grains between the fingers, one could not mash but a small portion: the rest gave to the touch the sensation of a piece of soft leather.

This type of growth belongs to the group of those which are confused under the name of scirrhus. I believe we ought to designate it with the name of cirrhosis, because of its color. Its development in the liver is one of the most common causes of ascites, and has the peculiarity that as the cirrhosis develops, the tissue of the liver is absorbed, and it ends often, as in the subject, by disappearing entirely; and that, in all the cases, a liver which has cirrhosis becomes smaller in volume, instead of increasing all the more. This type of growth develops also in other organs, and finishes by softening like all morbid growths. — R.-T.-H. Laënnec, 1826.

# SPECIAL ARTICLE

## The Physician and Spouse III. Problems and Some Comments on Solutions

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**ABSTRACT** Problems of marriage arise many times because of distortions in the trajectory of life. If individuation is inadequate, persons may remain tied in a relationship to their parents. They may not be able to love because of neurotic fears. Because of distortions in their value system or their self esteem, they may be sexually inadequate or unfaithful. Their values may make them workaholics and they may neglect their marriage to the point that they cannot meet each other's needs. Children reared in homes with less than optimal relationships often rebel or fail to achieve. Correctives to these problems are suggested.

**PHYSICIANS** and their wives face the same problems in their marriages that other couples face — and a few that are seldom encountered outside the medical profession.<sup>1,2</sup> Most of these latter problems were dealt with in the first two parts of this series. Let us look now at some of the problems common to all marriages and families.

### PROBLEMS WITH MARRIAGES

#### *Over-Attachment to Parents*

In our second presentation, (NC

Med J 42: 176-180, 1981) we mentioned the need for husbands and wives to transform their emotional ties with their parents. In too many marriages, at least one partner is unable to do so. In most cases the reason is that one or both parents bind themselves to a child in a relationship that does not free the child to think and feel for himself. Such parents use guilt as a weapon to control the child whenever he tries to free himself. Only children are unusually susceptible to this kind of domination.

Illustrating this problem in the case of an "only son," a professional who, throughout his adult life, had lunch with his mother every Friday, took his family to dinner with her every Sunday, and always consulted her before his wife about every major decision. As an adolescent, he never rebelled. When he tried, both parents would display profound hurt and accuse him of being ungrateful, withdrawing love until he apologized and promised not to rebel again.

He met and courted his wife during his high school and college years. He had in his entire lifetime dated only one girl, his wife. They married before his professional school years and she supported him during his training. When his training was complete, he returned to practice in his hometown where he resumed his close relationship with his mother.

After 20 years of marriage and only a few months after his father's death, he began to make frequent trips out of town to visit "an old college friend." In time, his wife found out that he was having an affair. At first he denied it, but in time his paramour insisted that he inform his wife. Within months he left his wife and established a separate residence. His mother approved of his behavior and blamed his wife for the separation. She accused the wife of not meeting her son's needs.

Father-son partnerships in medicine are not uncommon, and in many cases the relationship is one of equality and mutual respect. In some instances, however, the young physician goes into practice with his father because he is emotionally bound to him. In this situation he is often treated as a child and remains dependent. Because he is considered part of the family, his mother may attempt to dominate his wife and children and to manipulate their social life.

Obviously, it is not always the husband who fails to cut the umbilical cord. Many wives are too closely bound and relegate their husbands to the role of a provider of status and material goods. In some cases the wife even excludes the husband from his role as father.

#### *Unfaithfulness*

Temptations to infidelity abound in the life of the physician — partly

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because of his close relationships with his patients and with his fellow workers on the healing team, and partly because the status of physician may make him the target of predatory women. Infidelity is a way of life for some physicians — one of whom confessed to me that he had had 36 affairs in 12 years. The usual cause of such promiscuity is a feeling of sexual inadequacy and the continual need to prove one's virility and "sex appeal." At times, particularly in the "dangerous 40s," mere ennui may lead some with no significant problems in their marriage to indulge in extramarital affairs.

More often, however, men and women yield to the temptation to establish an extramarital relationship because their affectional and sexual needs are not being met in their marriages.

Despite reconciliations there is no way of knowing how much emotional pain infidelity causes a mate and the children, or what effect a couple's behavior may have in shaping the future of their children. We can truthfully say that we have never known a case where infidelity did not hurt someone permanently.

### Addiction

A major cause of disruption in marriage and family life is addiction to alcohol or other drugs. Since physicians move in circles where alcohol use is considered a sign of status and since drugs are readily available to them, it is not surprising that doctors and their spouses tend to abuse both. Abuse seriously impairs functional ability and leads to increasing incapacitation, both for work and for normal interpersonal relationships. Efforts of the victim's family to control this drinking or "doping" inevitably lead to conflict, which often erupts into physical violence. Alcoholics — physicians included — are notorious for physical and emotional maltreatment of their wives and children. One of our patients, the daughter of an alcoholic physician, was subjected to unbelievable physical and emotional abuse by both parents and to sexual abuse by her father.

### Failure to Achieve Union

A problem basic to many married couples is lack of emotional oneness. This problem has many causes. One of the most common is that the couple married for the wrong reasons. In some cases pregnancy necessitated a hasty wedding — and whether the couple admits it or not, such an event creates a feeling of coercion. Even if the couple loved one another and planned to be married anyway, there is always the awareness that *they were not free* to make the decision. For a covenant, freedom of choice is necessary.

Some couples who have been dating each other for a long time, without ever falling in love and coming to know each other, marry simply because of societal expectations and sexual desires. Early in the marriage, professional development and the birth and rearing of children keep them occupied and prevent them from considering the lack of depth in their relationship. One day, when it is too late, they find that the relationship is meaningless. In far too many cases a poor marriage becomes a hopeless one when the couple no longer have their children to keep them united.

In other cases one of the partners marries on the rebound — sometimes to spite the loved one who rejected him or her, sometimes because of fear that there will not be another opportunity for marriage.

In some instances the decision to marry is made on the basis of purely practical considerations.

One of our patients, deciding it was time for her to marry, sat down and listed the assets and liabilities of her five suitors. Of the five, a physician seemed to stack up best, and she accepted his proposal. Needless to say, their marriage has led her to other inappropriate decisions. Interestingly, this woman has marked difficulty in loving anyone.

Many physicians, subject to the pressures of their career, may not "shop around" for the most suitable marriage partner and may then marry after an inadequate courtship. Taking time to get to know the person one plans to marry is good insurance against incompatibility. A marriage is much more likely to

be successful if the couple takes the time, *before* marriage, to get to know each other's families, to recognize and accept each other's liabilities, to work out differences in values, to establish compatible goals, and to decide on their respective roles (and make adjustments to these roles).<sup>3</sup>

Even in a marriage begun under the most favorable circumstances, however, it is possible for emotional estrangement to occur because of unmet needs or external pressures. Every wife and husband needs the time and the freedom to communicate wants and desires to each other. Each needs a marriage partner who has time to listen, comfort, and help solve problems. Each needs someone to help make decisions, whether small or large. Their children have similar needs.

Many physicians become so preoccupied with their careers, both during their training and after they get into practice, that they do not meet their spouses' emotional needs. This situation is most likely to occur when a physician is the victim of low self-esteem. In an effort to maintain his prestige and power base, the physician devotes himself totally to his work. Because the physician puts such a low priority on time for spouse and children, the marriage deteriorates.

Sometimes it is external pressure that leads to alteration in the attitude of one or both partners so that the marriage loses value. A woman in our society is often made to feel that she is unproductive and of little worth if she is not engaged in a career outside the home. Or, she may feel she has, in the lingo of the culture, "the right to do her own thing" regardless of responsibilities to her husband and children. As can happen with the husband, she may let this career or pursuit consume time she needs for attending to the emotional needs of her family. Unless both spouses make the marriage a high priority, it crumbles.

### Sexual Dissatisfaction

Sexual problems are at the bottom of much marital unhappiness. Two of the angriest women we have seen were a surgeon's wife whose

husband had ejaculated prematurely for 20 years and a wife whose husband had been impotent for 20 years. In both cases the cause of anger was not so much the problem itself as the fact that the husband had refused to do anything about it.

We know of another case in which a physician's wife used sex to barter for her own selfish desires. For 15 years her husband had found it necessary to meet his own needs — at first by masturbation, and subsequently with an affair. When the wife finally recognized the error of her ways and tried to re-establish a normal relationship he refused. Today their marriage is a charade.

### *Failure to Grow*

Marriages often fail because the partners do not grow intellectually and emotionally — or diverge in direction and differ in pace. The professional, physical, economic and family changes that occur with the passing years require constant adaptations and reorganization or priorities. Early in marriage, establishing of a career and raising a family tend to be all-consuming concerns. As the children grow up, preparations must be made to educate them, while at the same time assuming responsibility for aging parents and investing for one's retirement. In time, the children leave home, parents die, vitality decreases, and one has to face the physical, emotional and financial deprivations of old age. Personality growth requires that a person anticipate all these changes and develop appropriate mechanisms to cope with them. When a wife or husband does not prepare for change, problems develop.

## **PROBLEMS WITH CHILDREN**

### *Rebellion*

The rebellion of children against all authority — parental or legal — is a problem faced by many families today. It seems to occur with disproportionate frequency in the families of physicians. The causes are many, but most of them are related to discipline. When the father is not available to help with the job of disciplining children — as is often the case — the mother may not get

the job done adequately. As a result, the child never learns to control his impulses and becomes unmanageable.

Many physicians and their wives take an "intellectual" approach to discipline. Expecting their children to respond as adults, they carefully teach them right from wrong and when a child misbehaves they explain the consequences of his misdemeanor. No other disciplinary action is taken, and thus conflict is avoided. Parents are then thoroughly mystified when one day the police call them to come and bail their teenager out of jail.

Parents who can afford it — and most physicians can — sometimes make the mistake of giving their children *everything* they ask for in order to keep them quiet, or to make up for not giving them time and love. Some of these children, when they become adolescents and want something that belongs to someone else, simply take it. Society frowns on larceny, but the child cannot understand why he can't have what he wants when he wants it because he has always been given what he wants when he wants it.

Parents who don't spend time with their children are asking for trouble. Surrogate parents cannot, in most cases, supply children with the love and guidance they need. A feeling of rejection leads to low self-esteem and to a desperate search for acceptance. Children who feel that they are outcasts tend to associate with other outcasts, and soon they are in trouble.

Excessively rigid discipline is another cause of rebellion. Lack of trust in a child can turn him into a "sneak" who has to slip out to meet his friends. Such children often get involved sexually and may marry young in order to escape from the tyrannical dominance of their parents only to find themselves in a new prison.

### *Failure to Achieve*

Professional parents are often disappointed in their children's level of achievement. The more successful the parents, the more prone they may be to have unrealistic expectations of their children. In

some cases the child's failure to live up to parents' high hopes is due to lack of ability. More often, however, such failures occur because the child has not learned good work habits and self-discipline. A child has to be *trained* to achieve.

## **SUGGESTIONS FOR SOLVING PROBLEMS**

### *Marital Problems*

Because of space limitations, it is not possible to discuss in detail the management of marital and family problems. A few general principles of counseling, however, may be helpful to the physician whose own marriage is in trouble or who finds it necessary to serve as a marriage counselor for patients or colleagues.

For marriage partners with incipient problems or couples seeking new dimensions for their marriages, we recommend the "Marriage Encounter" — a weekend program for couples that was developed in the Roman Catholic Church — or the marriage enrichment programs that are offered in some Protestant churches.

For those who are aware that something is definitely wrong, the first step is to determine the nature and origin of the problem. Is one or both partners lacking the attitudes and personality attributes that make for a happy marriage? Is one or more of the ingredients essential to success in marriage and family life missing? These attitudes, attributes and ingredients were discussed in the second of our presentations.

The second step is to determine the gravity of the problem. In some apparently unsalvageable marriages, the problem is simply that neither partner understands the need to change. In such cases, it is often possible for a marriage counselor or objective third party to be of help — provided that at least one of the partners can understand the need for remedial action. If one marriage partner, however, does not want to change and has decided to "opt out," the situation can rarely be remedied. In either case, however, the status of the marriage should be determined by careful in-

quiry, and both partners should then be confronted with an assessment of the problem.

If they choose to work to salvage the marriage, the third step is to disengage the couple from their conflict. This can be accomplished using a variety of maneuvers that decrease the number and intensity of disruptive stimuli and/or provide instruction as to how to inhibit maladaptive responses.

For example, a husband denied sex may demand it more to make his wife angry than from desire. She responds to his goading with rage. It might then be suggested to the husband that he refrain from asking for sex until the origins of conflict have been identified and resolved and to the wife that she say no, calmly, and ignore her husband's goading while they are receiving counseling.

The third step is to ascertain each partner's degree of responsibility for the problem. While it may be true that "it takes two to make an argument," we do not believe that problems in marriage always begin with both partners. It may be that one spouse has a problem (e.g., alcoholism) or *is* a problem (e.g., a nagging wife or an inconsiderate husband), and the other is unable to cope with it. Soon both become responsible for its continuation. It is, therefore, necessary to trace the problem back to its origin and accurately assess responsibility.

Once this has been done, one or both parties must be motivated to bring about a change in the behaviors that cause conflict. At this point we try to help the couple cease, or at least, reduce their negative emotional responses to the conflict, so that they can free themselves for positive responses. This positive way of responding has been called "The Assertive Lifestyle." In this lifestyle the couple, instead

of *expressing* or *repressing* their feelings, are encouraged to *confess* them.<sup>4</sup> At the same time, each partner is encouraged to look at the other positively by determining what assets that person has, instead of accentuating the familiar faults.

In an effort to encourage better communication to seek affirmation, we sometimes ask husband and wife to write each other love letters. In her letter, the wife tells her mate why she loves (or should love) him, and the husband writes a similar letter to his wife. Once they have communicated positive things, it is easier for them to discuss their disagreements and to resolve differences.

For a true reconciliation, it is essential that both partners forgive each other. Forgiveness is, of course, impossible if a selfish desire for revenge remains. People with a strong faith in God usually are able to forgive, simply because they know that God requires His children to love one another and that His forgiveness is available only to those who have forgiven each other.

How does one bring about such changes in people? Humanistic marriage counseling that ignores moral absolutes may not help, but counseling that respects and uses moral absolutes often can help. Even though some marriages appear not to be salvageable, an attempt should be made to heal them. Miracles do happen.

### *Problems with Children*

When dealing with children's problems, we first look at the marriage that established the home in which the child was reared. A child's problem will not change unless the parents change; therefore, therapy of the whole family is a must.

## SUMMARY

Like others, physicians and their spouses can be unhappy. In many cases one source of this unhappiness is a poor marriage or disturbed family life. Since a successful marriage requires that those who contract it be mature, we have in our previous presentations defined maturity before listing the principles of a happy marriage and family life. In this final paper, some of the problems encountered in physicians' marriages have been described.

It is our belief that even the worst of marriages can be redeemed if the ingredients essential for change are present. These ingredients should be available to any two people who love each other, or *desire* to love each other, and who possess constructive attitudes. They must desire humility and openness, be willing to accept responsibility, and be willing to forgive if they are to overcome their selfish attitudes and heal their relationship.

Physicians who are in the right relationship with their spouses, and their children and who possess appropriate values will then be free to achieve success in other relationships and in their profession. Living happy, productive lives they can serve as appropriate role models for all who come to them for help. In their special social status as physicians, they have a special opportunity to be leaven in a society with many deteriorating families.

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3. Landis JT, Landis MG: *Building a Successful Marriage*. Englewood Cliffs, N.J., Prentice Hall Inc., 1968, pp 114-128.
4. Carter RS: The assertive lifestyle. Paper presented at Christian Association for Psychological Studies Convention, Santa Barbara, Calif., June 25-29, 1976.

# Toxic Encounters of the Dangerous Kind

## Camphor Poisoning

Unfortunately, many old medicinal products which are not only completely useless but dangerous as well are still available over the counter (OTC). High on this list of useless, dangerous OTC preparations are the camphor products, which have been incriminated in poisonings for more than 140 years. Over 500 cases of camphor poisoning are reported annually, yet the drug is freely available in two ounce bottles as camphorated oil as well as in dozens of other OTC preparations. Most poisonings in both children and adults are due to accidental substitution of camphorated oil for other OTC products, especially castor oil, but also cod liver oil and cough and colic medications.

The human lethal dose of camphorated oil is 50-500 mg/kg. One teaspoon of camphorated oil contains 1,000 mg and one tablespoon of Vick's Vaporub 700 mg. Mothers once gave Vick's Vaporub by the spoonful and advised letting it melt in the mouth for throat and colds and rubbed more on the chest at the same time. Little wonder that children less than one year old are particularly vulnerable when intoxication can result from vapor inhalation and skin absorption as well as from ingestion.

Major toxic manifestations include CNS stimulation leading to seizures and

irritation of the mouth, throat and stomach. Seizures are almost inevitable in small children even with relatively small doses and do not necessarily portend a bleak prognosis. The drug is maximally absorbed with systemic effects possible as early as 15-20 minutes after absorption with maximal effects usually occurring within 90 minutes. The strong and characteristic odor is usually evident quite early.

Treatment remains controversial for there is no true antidote. Balanced therapy should include emptying the stomach by lavage with normal saline; because convulsions can occur suddenly, emesis is probably contraindicated. Lavage should be followed by a saline laxative such as magnesium or sodium sulfate. Seizures may be controlled by the use of barbiturates or intravenous diazepam (I prefer diazepam). Dialysis with a resin column or lipid hemodialysis can be used in severe cases although this is rarely indicated.

There is no place for this drug in modern medicine. It has to go!!!

Ronald B. Mack, M.D.  
Chairman, Committee on Accidents  
and Poison Prevention  
North Carolina Chapter of the  
American Academy of Pediatrics

## NORTH CAROLINA MEDICAL CURIOSITIES

### TWO PEOPLE IN ONE

Chang and Eng were born in Siam in 1811. This historically famous pair of "joined together" twins spent much of their life in North Carolina.

Their early life was spent in a tiny fishing village 60 miles north of Bangkok, where their life was like other boys in that village despite their "oddity." In 1829 they were brought to Boston by a Scottish merchant named Robert Hunter. They were an immediate hit among laymen but were also of medical interest. They were examined at many medical universities because of the unusual ligament that connected these two men.

While on stage, they often performed in unison complex movements which included bending their bodies in all directions and turning somersaults. They would also carry a portly member of the audience as

much as 100 feet without showing signs of strain. They were equally popular during several tours of Europe.

In the mid-1830s, already successful, the twins joined P. T. Barnum's American Museum in New York City. In 1839, Chang and Eng were 28 years old and having appeared in public for 10 years and amassed sufficient funds, they decided to settle down. They were tired of the hard, roving life of itinerant curiosities. The brothers liked the lifestyle in Wilkesboro, North Carolina, where most inhabitants lived in log cabins and earned their living by farming. The twins began their retirement from show business by opening a country store in Wilkesboro but were soon busy as farmers. By the end of the first year they had bought 110 acres in nearby Traphill and had built a house.





Eng and Chang  
—Courtesy of National Library Medicine.

#### Eng and Chang, the original Siamese twins

In October, 1839, soon after they had settled there, the twins filed in Wilkes Superior Court a declaration of intent to become United States citizens. They had no last name so were listed simply as "Chang and Eng, Siamese Twins." In 1844 they decided that they should have a family name like their neighbors, so at the fall term of Wilkes Superior Court they presented a petition to adopt the name Bunker and the request was granted.

Not far from the Chang/Eng property lived David Yates, a Quaker with nine daughters, who was a farmer and part-time clergyman. Chang and Eng began to go out with two of his daughters — Adelaide and Sarah Ann. The twins were in their 30s and the girls were about 19 and 20 years of age. The public was initially appalled, making threats of various sorts to Yates and to the twins. Despite the warnings, they continued their courtship and were married in April of 1843 — a double wedding. Eng was married to Sarah Ann and Chang to Adelaide. The two couples moved into the twins' house and settled down to life together. It was a novel married life and required novel adjustment, but different as it was the fundamentals were the same. Eng fathered seven boys and five girls and Chang seven girls and three boys. All twenty-two children were normal except for a son and a daughter of Chang's who were deaf mutes.

Over the years, the families grew too big to remain comfortable under the same roof. The twins bought land in White Plains in Surry County and built two houses about a mile apart — one for each family.

Chang and Eng spent three days in one house and the next three days in the other. This schedule was followed year in and year out, in winter and summer, and in sickness and health. Eng was the master in his house and Chang made the rules in his house.

The twins did not serve in the Civil War but were Southerners, and well-to-do ones at that. The war brought financial ruin to them. Before the war, they sold most of their real estate, taking notes which were secured by mortgage. The notes were repaid with Confederate money which proved to be worthless. The brothers owned slaves, but the war set them free. Moreover, the economy was at a stand-still, so that there was no market for the crops the twins had grown on their farms. Therefore, reluctantly, Chang and Eng returned to P. T. Barnum. After a tour in Europe, during which the twins sometimes included their wives and children in their performances, they returned home. At this time Chang suffered a stroke and was henceforth partially paralyzed on the right side.

In January, 1874, while home in North Carolina, Chang died of bronchitis during the middle of the night. Although a doctor from Mount Airy was summoned, he did not arrive soon enough. The next morning Eng also stopped breathing, although he had been completely well the evening before.

E. WAYNE MASSEY, M.D.  
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Duke University Medical Center  
Durham, N.C. 27710

# Editorials

## MIDWINTER MEETING OF THE EXECUTIVE COUNCIL OF THE NORTH CAROLINA MEDICAL SOCIETY February 7, 1981

In conjunction with the Officers Conference sponsored by the Committee on Communications in Raleigh, the Executive Council held its first meeting of 1981 at the Headquarters Building on February 6 and 7. This report summarizes the council's discussions.

A significant action of the council affecting the future of the medical society was the decision to secure a qualified management agency to conduct a survey of its functions and submit proposals for more effective operational efficiency. A similar review in 1957 produced the Edlund Report which established the office of executive director and treasurer, and led to the reorganization of committees under the commission system. The last authorized independent survey of the overall medical society operation was done in 1969 by the Florida office of the firm of Rothrock, Reynolds and Reynolds. Expansion of services, a rising budget and increasing managerial responsibilities convinced the council of the need for an indepth review of the total operation.

The chairman of the finance committee, Dr. Ernest Spangler, created an atmosphere of relief with the prospect of a balanced budget in 1981 and possibly in 1982. Consideration of a dues increase was not considered necessary at this time.

Dr. David Welton, chairman of the AMA delegation, reported a victory for the AMA in the suit brought by the chiropractors. He also reported the action of the AMA House of Delegates opposing the use of public funds in support of prepaid HMOs and IPAs, thus affirming the position of the North Carolina House of Delegates last May. There is, however, a strong possibility that AMA dues will have to be increased in the near future. Dr. Welton also expressed guarded optimism about the chances of Dr. James Davis' candidacy for vice-speaker of the AMA House of Delegates and urged the active support of North Carolina doctors.

Dr. John Dees, chairman of the committee on legislation, reported enthusiastic acceptance by the members of the General Assembly of the "Doctor of the Day" projects. He expressed opposition to a proposed Nurse Practice Act which would restrict the supervised functions of ancillary hospital personnel, allow direct third party payments for nursing service, and expand the practice functions of nurses. He also

indicated opposition to a bill to establish an independent commission, similar to the Public Utilities Commission, to control hospital rate setting. Approval was requested for exempting support articles from the sales tax, such as artificial limbs, crutches, wheelchairs, etc., needed for disabled individuals and for a bill to establish a joint committee to consider relations between medicine, nursing and hospital administration. Dr. Dees urged that local physicians establish communications with their neighborhood political party precincts to improve grass roots contact with legislators.

The council devoted considerable time to detailed reports from representatives of the State Bureau of Investigation on the problems of drug abuse and of Blue Cross Blue Shield of North Carolina on the incidence of hospital admissions of policy holders and Medicare recipients with particular reference to the various North Carolina counties. These reports were received as information to be referred to the appropriate committees for further study.

Before adjournment the resignation of First District Councilor, Dr. Edward B. Eadie of Elizabeth City, was announced. A temporary appointment was made by the Executive Council. Dr. Robert Earl Lane of Edenton will fill the vacancy until the next meeting of the House of Delegates. At that time an appointment for the unexpired term will be made. J.S.R.

## ALCOHOL AND THE HEART

*What ruins life and stops the heart?  
Alcohol! Yes, alcohol!*

—Old Temperance Song

One of the nice things about medical fashion is that yesterday's evil may be tomorrow's virtue, if the public be sufficiently sold. Take alcohol, the curse of the working class. Its virtues are glorified in advertisements in leading magazines and newspapers, its necessity as a social lubricant well recognized and its dangers perhaps obscured by its social position. But still there is evidence that alcohol is the most abused drug in the United States, not only by teenagers but by their role-models, physicians. Donahue on a recent Monday morning concerned himself with physician members of Alcoholics Anonymous and the North Carolina Governmental Evaluation Commission has urged that the North Carolina Board of Medical Examiners be required to "refer to the North Carolina Medical Society Committee on Physicians' Health

and Effectiveness all physicians whose health and effectiveness have been significantly impaired by alcohol, drug addiction or mental illness." A program to re-educate such physicians has been started at the University of North Carolina School of Medicine.

Yet already at parties have we been gleefully informed that the consumption of alcohol is associated with an increase in the concentration of high density lipoprotein cholesterol (HDL-C) in the blood of the consumer. Everyone must know that the level of HDL-C is inversely related to the incidence of coronary artery disease and that the increase in the former is distinct from the increase in blood level induced by vigorous physical exercise.<sup>1</sup> Thus is a neat rationalization provided, supported by data, by those who seek comfort in feeling good about themselves. Of course many of them feel so good about themselves that they overeat, ingest too much salt and are not always compliant with their antihypertensive therapies.

But the emotional gains from the new word about alcohol and HDL-C may be short-lived. Mitchell and his colleagues<sup>2</sup> have now demonstrated that a statistically significant relationship exists between alcohol intake and blood pressure — systolic, diastolic and mean.

J.H.F.

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2. Mitchell PI, Morgan MJ, Boadle DJ, et al: Role of alcohol in the aetiology of hypertension. *Med J Aust* 2:198-200, 1980.

### COFFEA ARABICA

Technologically simple societies have blamed the unseen for calamities, incriminating witches, imps, demons, trolls for imagined and obvious woes. Advanced scientific societies secure in the evidence of the senses have no such culprits to chastise or propitiate when evil strikes. But a culture with roots in puritanism has to have a civil mechanism to discharge guilt if utopia is to be established on earth. So it becomes necessary to examine carefully our pleasures which may distract us from the path of edification in pursuit of perfection.

Pleasure then may have to struggle to survive in a civilization given to an unremitting search for absolutes in science, government and matters of the spirit. Yet can such a body politic be called a civilization if it ignores the need to please the eye with art, the ear with song and the palate with good tastes? When we eat and drink together, we share our treasures, our thoughts and our divergent humanity.

Still despite the advantages of such camaraderie, we are told that most of what we eat and drink may be bad for us. Alcohol has been a favorite target, there being something particularly dangerous about the cup that cheers. Certainly there is if it is mixed with gasoline or if it is used as the solution for all life's ills. But almost

every society has devised something fermented for its pleasure and for its rituals.

The situation is less clear with coffee, that great fringe benefit which makes life in the hives of bureaucracy so much more tolerable. The membership of the National Caffeine Society is without number, without obligatory initiation fee and without dues. Abigail Van Buren reports that Americans each day drink 500 million cups of coffee and what more reliable observer of our mores can we seek? Tea, too, has its lovers and its drinking has led to rituals considerably more elaborate than those followed by lovers of caffeine. Tea ceremonies have been more likely to mark leisurely, hierarchical societies rather than compulsively mobile ones like ours and tea itself has a different medical niche from coffee, having less caffeine, no sodium and about 2.5 mEq potassium per cup.

Caffeine is a more potent central nervous system stimulant than the xanthine in tea, theobromine, and is notorious as a provoker of rapid pulses and palpitations, an apostle of wakefulness and a cause of gastrointestinal symptoms. If an agent can make itself known to its devotees in such a variety of ways, if it induces symptoms, it can be easily suspect as possessing occult powers. Might coffee drinkers really enjoy the side effects? Might there not be something morally weakening if 500 million cups of it are drunk daily in a great nation?

When coffee was introduced in Europe, coffee houses sprang up in such centers of culture and sophistication as London and Vienna. William Harvey, the first great modern physician, was an early devotee, perhaps because his brothers were successful coffee merchants in London and the coffee houses of central Europe retain their attractions to this day, particularly when coffee is served mit schlag, heavy, heavy cream.

But the nannies of the Potomac, the Food and Drug Administration, have become concerned about the coffee ceremony in the American marketplace. And well they might because caffeine crosses the placenta and is a teratogen for rats when given by intubation in doses of 30-125 mg/kg. Of course the usual cup of coffee contains 100-150 mg of caffeine, 1.4-2.1 mg/kg for the standard 70 kg laboratory human and metabolism differs in man and rat but pregnant and potentially pregnant women have been advised by the FDA to eliminate their coffee breaks.<sup>1</sup> Yet scoffers may eventually have to turn to prayer. Remember when cigarettes were high fashion and industrial cities were proud of the smog which proved they were in the vanguard of progress. Still it seems as if our modern age having lost faith in Satan and his helpers has had to turn the mundane into devils which can then be measured and have their statistical significance determined.

J.H.F.

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1. Caffeine and pregnancy. *FDA Drug Bull* 10:19-20, 1980.

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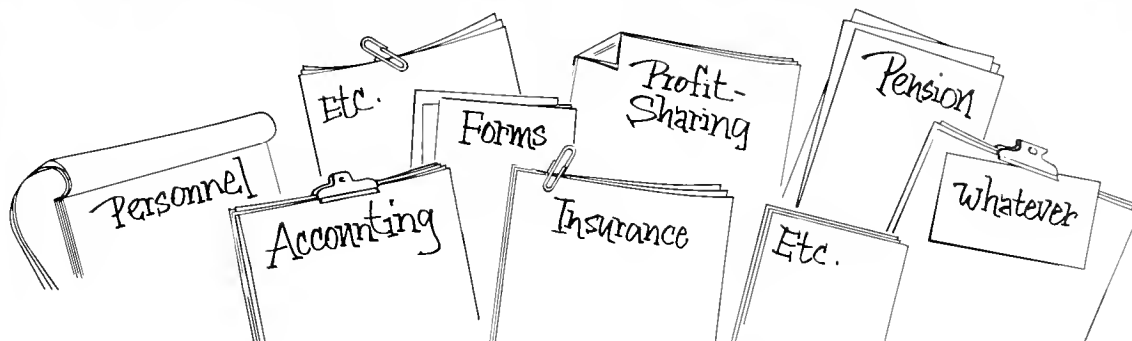
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# MANAGEMENT CONSULTANTS



By Karen Zupko, Director  
Department of Practice Management  
Division of Medical Practice  
American Medical Association

Thinking of incorporating your practice? Personnel problems getting you down? Setting up a pension or profit-sharing plan? Getting seemingly contradictory advice from your attorney, accountant, broker, and insurance man? Well, maybe it's time for you to find a medical management consultant.

Professional medical management consultants come from a variety of backgrounds — law, accounting, and business. Most consultants are organized into firms, and individual consultants, like physicians, most often have specialties. But the key thing to remember is that these management advisers specialize in serving physicians and dentists and are well acquainted with the business side of medical practices.

What can you expect in the way of advice and assistance? Firms vary, but most offer services in three broad areas: practice management, personal financial management, and accounting and taxes.

Having a consultant doesn't mean that you won't need the services of an attorney, accountant, or architect. But if

you include your consultant in discussions with your other advisers you will have the benefit of a valuable second opinion.

Think of it this way: if your business affairs need "doctoring," a medical consultant is like the family practitioner who can take care of most ailments. And like a family doctor, they will refer you to a specialist if you need one. Specifically, you can expect assistance in office design, accounts receivable management, tax, personnel hiring, training, and policies, big equipment purchases, and the like.

## What do they charge?

Fees vary with the time and effort to do what you ask. Few bill on a daily rate basis anymore. Most charge between \$50.00 and \$100.00 an hour and that includes travel time to your office and the time it takes to write reports. Rates for a complete practice survey range between \$400 to \$1,600 depending on your type of practice. Most consultants will offer to quote a fee before taking you on as a client, but if they don't, be sure to ask. You should also know that most consulting firms don't accept fees or commissions from suppliers, pharmaceutical companies, insurance companies, or other commercial interests.

### **How do you judge qualifications?**

After several years of experience, management consultants can voluntarily join a professional society and this is one way you can check their credentials. These societies establish ethical standards for members and provide continuing education courses, which is as important for them as it is for you.

If the consultants you contact have "C.P.B.C." after their names, this means they have passed a comprehensive written examination on various aspects of practice and financial management. Nearly 100 medical management consultants in the U.S. (of approximately 500 in business) have passed the test, which is administered by the Institute for Certified Professional Consultants.

To find a medical management consultant in your area, you can contact one of the professional societies listed below. They will refer you to local members. After you get the names, call and talk with one or two before committing yourself. Your search for a consultant is like a patient looking for a doctor — it pays to check around.

National societies for professional medical management consultants are:  
Society of Professional Business Consultants (SPBC)

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# Bulletin Board

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2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information."

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### April 3-4

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For Information: Emery C. Miller, M.D., Assoc. Dean, Bowman Gray School of Medicine, Winston-Salem

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Place: Bowman Gray School of Medicine

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## CYCLAPEN-W® (cyclacillin)

### Indications

Cyclacillin has less *in vitro* activity than other drugs in the ampicillin class and its use should be confined to these indications. Treatment of the following infections.

#### RESPIRATORY TRACT

Tonsillitis and pharyngitis caused by Group A beta-hemolytic streptococci

Bronchitis and pneumonia caused by *S. pneumoniae* (formerly *D. pneumoniae*)

Otitis media caused by *S. pneumoniae* (formerly *D. pneumoniae*) and *H. influenzae*

Acute exacerbation of chronic bronchitis caused by *H. influenzae*

\*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, non-penicillinase producers

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing.

Contraindications: Contraindicated in individuals with history of an allergic reaction to penicillins

Warnings: Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions: Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY: Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS: It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.

Adverse Reactions: Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reported.

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

Cyclacillin is not indicated in children under 2 months of age. Patients with Renal Failure: Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

Dosage (Give in equally spaced doses)

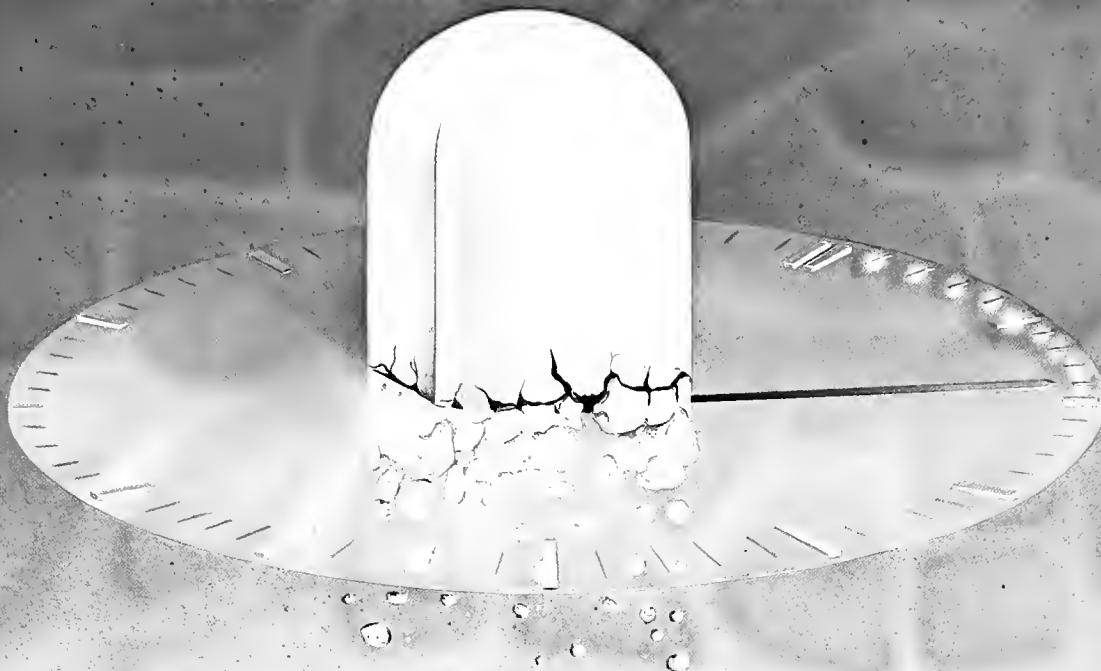
INFECTION	ADULTS	CHILDREN*
Respiratory Tract		
Tonsillitis & Pharyngitis	250 mg q.i.d.	body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d.
Bronchitis and Pneumonia		
Mild or Moderate Infections	250 mg q.i.d.	50 mg/kg/day q.i.d.
Chronic Infections	500 mg q.i.d.	100 mg/kg/day q.i.d.
Otitis Media	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Skin & Skin Structures	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Urinary Tract	500 mg q.i.d.	100 mg/kg/day

\*Dosage should not result in a dose higher than that for adults.

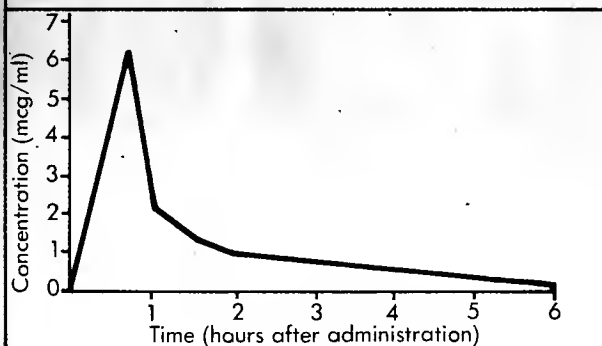
†depending on severity

# Half the dose is absorbed in 9 minutes!

compared to 32 minutes for ampicillin.\*



Mean blood levels in mcg/ml after 250 mg cyclacillin single oral dose



- Rapid, virtually complete absorption from GI tract
- Exceptionally high peak blood levels – 3 times greater than ampicillin (Clinical efficacy may not always correlate with blood levels.)
- Rapidly excreted unchanged in urine – 1½ times faster than ampicillin

\*Based on T<sub>1/2</sub> values for single oral doses of 500 mg cyclacillin tablet and 500 mg ampicillin capsule. Data on file, Wyeth Laboratories.

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Wyeth Laboratories • Philadelphia, Pa 19101



**Fewer episodes of diarrhea and rash than with ampicillin in studies to date.**

**Efficacy proven in the treatment of bronchitis, pneumonia, and upper respiratory infections.†**

In 117 patients, 73 with bronchitis/pneumonia caused by *S. pneumoniae* and 44 with streptococcal sore throat caused by Group A beta-hemolytic streptococcus, CYCLAPEN®-W achieved a clinical response rate of 100%! Bacterial eradication was 95% and 86% respectively.

†Due to susceptible organisms.

See important information on facing page.

## **CYCLAPEN®-W** (cyclacillin)

250 and 500 mg Tablets  
125 and 250 mg per 5 ml Suspension

**more than just spectrum**

**NEW  
NAME**

#### April 9 and 10

##### "Third Annual Health Law Forum"

Place: Ramada Inn, Greenville

Fee: \$100

Credit: 7 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville, N.C. 27834

#### April 11-12

##### Geriatric Anesthesia

Place: UNC School of Medicine

Fee: \$100

Credit: 9.5 hours

For Information: William B. Wood, M.D., Director of Continuing Medical Education, Chapel Hill (919) 933-2118

#### April 16

##### Movement Disorders Update

Place: UNC School of Medicine

Fee: \$20

Credit: 5 hours

For Information: William B. Wood, M.D., Director of Continuing Medical Education, Chapel Hill (919) 933-2118

#### April 16-17

##### "Third Annual Health Law Forum"

Place: Pitt County Memorial Hospital, Greenville

Fee: \$100

Credit: 8.5 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville 27834

#### April 22

##### "Drug Interactions and Reactions"

Place: Lee County Hospital

Fee: \$12

Credit: 3.5 hours

For Information: R. S. Cline, M.D., (919) 775-2111, ext. 219

#### April 24-25

##### Symposium on Metabolic Bone Disease

Place: Velvet Cloak, Raleigh

Fee: \$20

Credit: 9 hours

For Information: William B. Wood, M.D., Director of Continuing Medical Education, Chapel Hill (919) 933-2118

#### April 27

##### Update on the Care of the Diabetic Patient

Place: Howard Johnson Motel, Greensboro

Fee: \$35

Credit: 5 hours

For Information: William B. Wood, M.D., Director of Continuing Medical Education, Chapel Hill (919) 933-2118

#### April 29-30

##### Current Concepts in Hemostasis and Thrombosis

Place: UNC School of Medicine

Fee: \$100

Credit: 14 hours

For Information: William B. Wood, M.D., Director of Continuing Medical Education, Chapel Hill (919) 933-2118

#### May 13-14

##### Respiratory Care Symposium: Breath of Spring, 1981

Place: Bowman Gray School of Medicine

Fee: \$35

Credit: 9 hours

For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine

#### May 14-16

##### N.C. Chapter of American College of Surgeons

Place: For Continuing Education, Appalachian State

For Information: J. S. Mitchener, Jr., M.D., P.O. Box 1808, Laurinburg, N.C. 28352

#### May 15

##### "Pediatrics Day"

Place: Pitt County Memorial Hospital, Greenville

Fee: \$30

Credit: 5 hours; AMA Category I; AAFP approval requested  
For Information: F. M. Simmons Patterson, M.D., Assistant Dean of Continuing Medical Education, East Carolina University School of Medicine, Greenville

#### May 22-24

##### 10th Annual Pediatric Pulmonary Disease

Place: Duke University Medical Center

Fee: \$50

Credit: 12 hours

For Information: Alexander Spock, M.D., P.O. Box 2994, Duke University Medical Center, Durham, N.C. 27710. For information: (919) 774-6518

#### June 3

##### "What's New in Cardiovascular Imaging — Echo, Nuclear & CAT?"

Place: Pitt County Memorial Hospital, Greenville

Fee: \$30

Credit: 6 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville, N.C. 27834

The items listed in the above column are for all the six months immediately following the month of publication. Requests for listing should be received by "WHAT? WHEN? WHERE?", P.O. Box 27167, Raleigh 27611, by the 10th of the month prior to the month in which they are to appear. A "Request for Listing" form is available on request.

## AUXILIARY TO THE NORTH CAROLINA MEDICAL SOCIETY

### RESEARCH AND ROMANCE OF MEDICINE

Writing a book is invariably an isolating, tedious, even perilous task. Fortunately, there are sufficient rewards as well so throughout the centuries there have been the storytellers, the theorists and philosophers as well as the recorders of history willing to commit themselves to the written word.

Within the North Carolina Medical Society Auxiliary at least five of our county auxiliaries in recent years have sponsored the recording of the history of medicine in their areas. The Southern Medical Association Auxiliary with its on-going project of the Research and Romance of Medicine has been one of the prime movers in this effort. At the annual Southern Medical Association Auxiliary convention awards are currently given for the best of these, and North Carolina has fared well in competition.

These books have not been written by professionals but by members of the auxiliaries, wives of the physicians, who have dedicated much time and talent to put them together. First comes the research which involves many telephone calls, letters and questionnaires, and then combing libraries and attics, delving into church and court records — anywhere that some record of the past can be found. Once the facts have been compiled, they must be placed in order in some reasonable format and written about. Writing alone can take a year of concentrated effort and even longer when the author is doing it off the corner of the dining room table after taking care of her other respon-

sibilities. Finally, there is a matter of financing such a venture. These little volumes, which appear in very limited editions, if not worth their weight at today's gold prices, are certainly worth it in silver. Medical auxiliaries operate on limited budgets as is the case with most volunteer service organizations. The researchers and writers work for love alone, but publishing prices come high. The medical histories are sold at cost, sometimes underwritten by the county medical society, often aided by a garage sale or a

pre-publication subscription drive to defray immediate expenses.

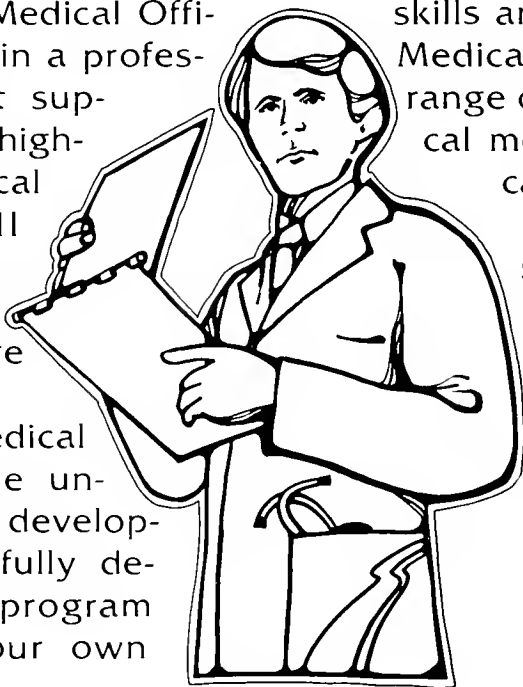
In 1969, *Union County Men of Medicine* was published by the local auxiliary. It was compiled and written by all the members of the group at that time and is a comprehensive history of medicine in the county and contains a biographical listing of every physician who has practiced in the area. The auxiliary is presently planning an up-date of the book.

The Guilford-High Point Medical Auxiliary in 1974

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## Air Force. A great way of life.

published a little volume entitled *Out of the Black Bag* in honor of Doctor's Day of that year. The book was researched, compiled and edited by Mrs. Chester C. Haworth, Jr., with pen and ink drawings by Mrs. N. Hampton Chiles. It includes a history of the area, a brief biographical listing of all the physicians who have practiced in the High Point-Jamestown area and an addendum which gives some interesting old-fashioned remedies for various ills plus a reprint of an 1870 newspaper article "How Many Wives Fade." It was written in behalf of the over-worked wife and mother of the day, who had few of the opportunities for self-expression that now exist.

*The Lonely Road*, a history of the "physicks and the physicians of the lower Cape Fear (1736-1976)," was published by the New Hanover, Brunswick, Pender Medical Auxiliary in 1977. The volume was researched and prepared by the Research and Romance of Medicine committee of the auxiliary with Jean Poole (Mrs. Tilghman) as chairman and text by Diane Cashman (Mrs. John). The book contains an extensive history, both medical and otherwise, down through the years of this area which has been so much a part of our nation's history. The biographies of all the physicians who have practiced there are also comprehensive. In 1980 the Southern Medical Auxiliary gave first place awards to the book and to Mrs. Poole and Mrs. Cashman.

Rowan-Davie's *The Story of Medicine (1753-1976)* was another first place winner. It entered the competition the year it was published in 1979. This book by

the Rowan Medical Auxiliary was edited by Irene Field (Mrs. Bob L.) and Martha Agner (Mrs. Roy A. Jr.). It was eight years in the making. The history text is divided into three parts: 1753-1900, written by James S. Brawley; 1900-1976, which covers local medical institutions, compiled by the editors and a section "Recollections of Medicine" by Frank B. Marsh. The biographies of the physicians are comprehensive adding to their genealogical importance.

*Sketches: Sampson County M.D.'s (1736-1980)*, after four years of effort, finally emerged on the scene the very day in January 1981 that Washington, D.C., honored the liberated hostages. This book was edited by Jessie Owens (Mrs. William) and me, Anne Hubbard (Mrs. Hampton). It is an up-date of a previous volume, *Sampson County M.D.'s (1736-1957)*, compiled and edited by Dorothy T. Royal (Mrs. Donnie) with the assistance of Kathleen Matthews Carter, a physician's daughter, and Claude H. Moore, a local historian. It was originally published the year that Mrs. Royal was the state president of the Medical Society Auxiliary as I am about to become. This is mere coincidence. Writing a medical history is not a necessary prerequisite in our county for the position.

*Sketches* has a history of Sampson County Memorial Hospital and detailed biographies of all the physicians who have practiced in the county which "sketch the history and growth of the county through the years." It also has a section of biographies of physicians with ties to Sampson County who practice elsewhere.

During the 1981-1982 North Carolina auxiliary year Jessie Owens will be the state chairman of Research and Romance of Medicine. She brings to the position a great interest in history and a devotion to detail which is so necessary in compiling such a volume. Having made the arduous yet fulfilling "journey" herself, certainly she can be of assistance to those who are interested in undertaking this endeavor.

ANNE H. HUBBARD, Clinton, N.C.

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### News Notes from the—

## BOWMAN GRAY SCHOOL OF MEDICINE WAKE FOREST UNIVERSITY

Anesthesiologists at the Bowman Gray School of Medicine are testing a drug that eventually may be used to lower blood pressure in pregnant women during emergency deliveries.

During the last few weeks of pregnancy, about 10% of all women develop preeclampsia, characterized by swelling of the ankles and face, abnormal urine tests and high blood pressure. There is no known cause for the condition. It seems to be more common among women who have poor nutrition and less prenatal care.



In some women, the condition can worsen, causing a life-threatening crisis such as even higher blood pressure which may lead to seizure, stroke or heart failure.

General anesthesia often is needed in an emergency delivery which requires cesarean section. But induction of general anesthesia can result, in some patients, in still higher blood pressure.

Bowman Gray researchers are examining sodium nitroprusside, which they believe may be a more effective means of lowering blood pressure. It is fast acting, taking effect in about half a minute.

The drug is used in other medical specialties to lower blood pressure, but because it breaks down into cyanide, there is concern about possible risk and the danger of cyanide to the fetus.

Two Bowman Gray anesthesiologists are studying pregnant sheep, which have been made hypertensive. Sodium nitroprusside is being used to bring the blood pressure down. Each sheep and its fetus is monitored for blood pressure and blood flow, and blood samples are taken from each. Bowman Gray laboratories measure blood gases and cyanide levels.

Preliminary results have been promising, with no maternal or fetal complications. Blood pressures have been controlled and cyanide concentrations have been below toxic levels.

The researchers warn, however, that because the work is being done with animals, results must be weighed carefully.

\* \* \*

Dr. Augustin G. Formanek, a cardiovascular radiologist, and Dr. Larry D. Young, a psychologist, have been appointed to the Bowman Gray faculty.

Formanek, who holds the M.D. and C.Sc. degrees from Komensky University in Czechoslovakia, will hold the rank of professor of radiology at Bowman Gray. In Czechoslovakia, he was head of the Cardioangiographic Laboratory and the Radiology Department of the First Children's Department of Komensky University.

Before coming to Bowman Gray, Formanek was associate professor of radiology at the University of Minnesota. He also has served as a visiting professor at the Mayo Clinic in Rochester, Minn.

Young will be an assistant professor of psychology at Bowman Gray.

He holds the B.A. degree from David Lipscomb College, the M.S. degree from the University of Georgia and the Ph.D. degree in personality and psychology from Harvard University.

Before coming to Bowman Gray, he was assistant professor of psychology at the University of Missis-

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Clinical Director  
Springwood at Leesburg  
Route 2, Box 44  
Leesburg, Virginia 22075  
(703) 777-0800

When painful spasm  
is the presenting  
symptom...

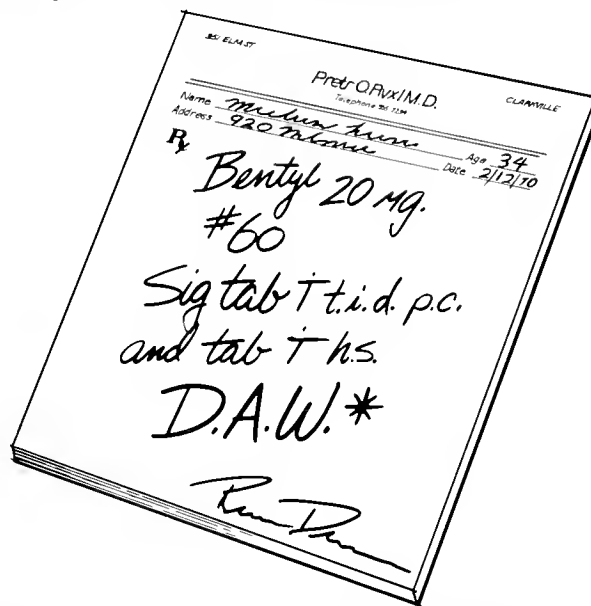


...in the functional bowel/irritable bowel syndrome<sup>†</sup>

be sure to specify

**Bentyl<sup>®</sup>**  
(dicyclomine hydrochloride USP)

10 mg. capsules, 20 mg. tablets,  
10 mg./5 ml. syrup, 10 mg./ml. injectable



*\*D.A.W.-Dispense as written*

**because:**

**Bentyl passes these tests for product integrity.**

- ⊗ The Bentyl molecule is a product of original Merrell research.
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- ⊗ Bentyl bioavailability of tablets, capsules, syrup and injectable.
- ⊗ The bioequivalence of the oral dosage forms permits a choice of tablets, capsules, or syrup that satisfies patient's dosage preferences.
- ⊗ Pharmacologic effect in the distal colon compared to placebo<sup>††</sup> shows how Bentyl affects abnormal motor activity in the irritable colon patient.<sup>†</sup>

<sup>†</sup> This drug has been classified "probably" effective for this indication.

**Merrell**

<sup>††</sup> In the experiments that showed significant pharmacologic effect, the dose of Bentyl used was 50 mg. I.M., which is higher than that permitted in the labeling. This dose was deemed justified since the recommended daily dose of injectable Bentyl is 20 mg. (2 ml.) every 4 to 6 hours. Thus, in 8 hours, a patient could receive a total of 60 mg. I.M. and at that time, as a result of the sustained plasma levels from the 20 mg. injections at 0 and 4 hours, might show an even higher plasma level that occurs after a single 50 mg. I.M. dose. Presumably, the same pharmacologic effect would follow. These observations do not constitute evidence of efficacy.

# Bentyl®

(dicyclomine hydrochloride USP)

Capsules, Tablets, Syrup, Injection

AVAILABLE ONLY ON PRESCRIPTION

Brief Summary

## INDICATIONS

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the following indications as "probably" effective:

For the treatment of functional bowel/irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS.

For use in the treatment of infant colic (syrup).

Final classification of the less-than-effective indications requires further investigation.

**CONTRAINDICATIONS:** Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy); obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis); paralytic ileus, intestinal atony of the elderly or debilitated patient; unstable cardiovascular status in acute hemorrhage; severe ulcerative colitis; toxic megacolon complicating ulcerative colitis; myasthenia gravis.

**WARNINGS:** In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. There are rare reports of infants, 6 weeks of age and under, administered dicyclomine hydrochloride syrup, who have evidenced respiratory symptoms (breathing difficulty, shortness of breath, breathlessness, respiratory collapse, apnea), as well as seizures, syncope, asphyxia, pulse rate fluctuations, muscular hypotonia, and coma. The above symptoms have occurred within minutes of ingestion and lasted 20 to 30 minutes. The timing and nature of the reactions suggest that they were a consequence of local irritation and/or aspiration rather than a direct pharmacologic effect. No known deaths or permanent adverse effects have been reported. Bentyl syrup should be used with caution in this age group.

**PRECAUTIONS:** Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy.

Use with caution in patients with:

Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon.

Hypertension, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension.

Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur.

**ADVERSE REACTIONS:** Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia; urinary hesitancy and retention; blurred vision and tachycardia; palpitations; mydriasis; cycloplegia; increased ocular tension; loss of taste; headache; nervousness; drowsiness; weakness; dizziness; insomnia; nausea; vomiting; impotence; suppression of lactation; constipation; bloated feeling; severe allergic reaction or drug idiosyncrasies including anaphylaxis; urticaria and other dermal manifestations; some degree of mental confusion and/or excitement, especially in elderly persons; and decreased sweating. With the injectable form there may be a temporary sensation of light-headedness and occasionally local irritation.

**DOSAGE AND ADMINISTRATION:** Dosage must be adjusted to individual patient's needs.

## Usual Dosage

Bentyl 10 mg. capsule and syrup. *Adults:* 1 or 2 capsules or teaspoonfuls syrup three or four times daily. *Children:* 1 capsule or teaspoonful syrup three or four times daily. *Infants:* ½ teaspoonful syrup three or four times daily. (Dilute with equal volume of water.)

Bentyl 20 mg.: *Adults:* 1 tablet three or four times daily.

Bentyl injection: *Adults:* 2 ml. (20 mg.) every four to six hours intramuscularly only.

## NOT FOR INTRAVENOUS USE

**MANAGEMENT OF OVERDOSE:** The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanechol chloride USP) should be used.

Product Information as of July, 1980

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MERRELL-NATIONAL LABORATORIES  
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**Merrell**

0-6546 (Y115C) MNQ 442

Mississippi. His principal teaching interests include behavioral medicine and behavior therapy.

\* \* \*

A presentation by a Bowman Gray psychologist is included on a new tape which has been produced for psychiatrists.

Dr. Sallie J. Schumacher, associate professor of psychology and marital health, speaks on "Most Impotence is Not Psychogenic" on the first of a series of tapes entitled "Medical Portfolio for Psychiatrists."

The tape is produced by the Cortlandt Group, Inc., which also produces "Medical Portfolio" series for other medical specialties.

Also included on the tape are presentations by William F. Buckley Jr., Henry Kissinger and Sen. Orrin Hatch. The moderator is Frank Blair, newsman of NBC's "Today Show" for 23 years.

Editor Peter Albertson has said that the series is intended to explore not only the clinical aspects of medicine but also to present knowledgeable observers of the halls of Congress, new currents in international affairs and economic theory.

\* \* \*

The Bowman Gray School of Medicine has a new contract to develop a method of rapidly detecting atherosclerosis at an early stage in its development.

Early detection, even as early as childhood, would give doctors the means of monitoring the disease's progress and the opportunity for treating it before it becomes a serious problem.

The three-year contract, for almost \$800,000, is from the National Heart, Lung and Blood Institute (NHLBI).

Researchers on the project said that Bowman Gray received the contract partly because of results obtained under an earlier, related contract from NHLBI. Under that contract the researchers developed ultrasound instruments capable of detecting changes in the artery which ultrasound previously had not been used to uncover.

The Bowman Gray work is focused on examination of the carotid arteries using ultrasound. Already, much has been learned about the artery's elasticity. Much remains to be done in getting an ultrasound image of the artery wall as it thickens during atherosclerosis.

The research, being carried out by the Department of Neurology's unit on biomedical research and development, also involves development of computer technology needed to handle the information contained in the ultrasound beam reflected out of the carotid artery.

The researchers expect to have advanced ultrasound instruments for the early detection of atherosclerosis ready for testing within two years.

## News Notes from the—

### DUKE UNIVERSITY MEDICAL CENTER

Durham's Ronald McDonald House, which provides shelter and support services for families with children being treated at Duke University Medical Center, celebrated its first year of operation on Feb. 1. More than 6,640 persons from throughout North Carolina, 10 other states and three foreign nations stayed at the house in the first 11 months. The Ronald McDonald House is operated by the non-profit Pediatric-Family Center of North Carolina.

\* \* \*

On Jan. 23, three volunteers stepped into an eight-foot hyperbaric (high pressure) chamber and began what was planned as a record-breaking simulated dive to 650 meters. The chamber was in the F. G. Hall Laboratory for Environmental Sciences at the Duke University Medical Center. Last March, F. G. Hall divers reached 650 meters, breathing a mixture of helium, nitrogen and oxygen and suffering no ill effects. The new dive projected a four-day stay on the "bottom" to thoroughly test the capability of human beings to work for sustained periods underwater with no incapacitating effects.

\* \* \*

Research to Prevent Blindness (RPB) recently raised its total funding of the Eye Center at Duke University Medical Center to \$85,000 by making an unrestricted grant of \$10,000. Duke is among more than 50 medical institutions receiving annual grants from RPB, which has provided more than \$37 million for eye research.

\* \* \*

A \$1.3 million grant for an epidemiological study of mental illness has been made by the National Institute of Mental Health to a research team at the Duke University Medical Center. Duke and four other schools will be interviewing a total of 17,500 persons to determine, among other things, how many persons are suffering from mental illness, what sorts of mental problems people are having, the rate at which persons are incurring mental illness, and patterns of use of mental health facilities.

Dr. Dan Blazer, one of the co-principal investigators for Duke, said, "We're unique among the five institutions in that we are the only ones surveying people in the southeast. And we also have the largest rural component."

Blazer is associate professor of psychiatry and head-designate of social and community psychiatry. His co-principal investigator is Linda George, associate professor of psychiatry and adjunct associate professor of sociology.

The survey will make use of the new Diagnostic and

Statistical Manual III (DSM III), which Blazer and George believe will produce more precise diagnoses than before. The Duke survey will be administered by the Research Triangle Institute on contract.

Dr. H. Keith H. Brodie, professor and chairman of the Department of Psychiatry, is also an investigator with the project.

Other schools involved are Yale, Washington University, Johns Hopkins and UCLA.

\* \* \*

The \$100,278 from the 1980 Duke Children's Classic Golf Tournament is being put to work on the research of Dr. Charles Roe and his staff, who are researching the more than 2,000 inheritable diseases which can affect children. Roe is chief of the pediatric metabolism division at the Duke University Medical Center.

\* \* \*

In January, Dr. Salvatore V. Pizzo of the Duke University Medical Center announced research indicating that a chemical defect may determine which women are most likely to develop blood clots while taking birth control pills. But, Pizzo told an American Heart Association seminar in Tucson, Ariz., even moderate exercise seems to make a dramatic improvement in the chemical deficiency, thus theoretically reducing the risk of clotting.

Pizzo is associate professor in the Department of Pathology and assistant professor in the Department of Biochemistry at the medical center.

His research team suspects that some women taking



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birth control pills are predisposed to clotting because of a protein called plasminogen activator which triggers the chemical breakdown of clots on blood vessel walls. Pizzo said that 90% of the subjects tested — 20 women who had developed clots while taking the pill — showed significantly decreased levels of the activator after having been off the drug for at least a year.

Pizzo suggested that about one percent of pill users would have such low levels of plasminogen activator that disuse of the pill is indicated. He estimated that 200 to 300 women die annually from complications of taking the pill.

\* \* \*

The 19th National Conference on Breast Cancer, held March 8-13 in San Diego, Calif., included two Duke University Medical Center physicians.

Dr. Robert McLelland, associate professor in radiology, was program chairman and Dr. Nicholas Georgiade, chief of oral surgery, served as a panelist in a discussion of systemic breast cancer.

\* \* \*

Dr. Andrew G. Wallace has been named associate vice president for health affairs of Duke University

Medical Center. He succeeds Dr. Roscoe R. (Ike) Robinson, who will become vice president for medical affairs at Vanderbilt University July 1.

Wallace is professor and chief of the division of cardiology in the Department of Medicine at Duke. He received his M.D. degree from Duke University School of Medicine in 1959.

Wallace is a founder of the Duke University Preventive Approach to Cardiology Program (DUPAC) which will be housed in a sports-medicine facility now being built on the Duke campus. He was also instrumental in developing Duke's innovative "Computerized Textbook of Medicine," which uses computers to extend and enhance the clinical experience and knowledge of practicing physicians.

\* \* \*

Dr. Harry T. Gallis has been chosen head of the continuing medical education program at Duke University School of Medicine. Gallis is assistant professor in the division of infectious disease in the Department of Medicine and assistant professor in the Department of Microbiology and Immunology. He succeeds Dr. A. Henderson Rourk.

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News Notes from the

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Rural people have psychological problems just like city residents, but they have fewer opportunities to obtain adequate care.

Helping those rural residents with milder emotional and relationship problems is the object of a study being undertaken by the School of Medicine's Department of Psychiatry.

The study will look at benefits of clinical education programs, emotional support groups and other treatments as alternatives to traditional psychotherapy.

Dr. William G. Hollister, professor in the division of community and social psychiatry, will direct the study which is being funded by a three-year \$730,000 grant from the National Institute of Mental Health. Work will be done in Chatham, Moore and Richmond counties.

Dr. Francis Miller, associate professor of psychiatry; Dr. J. Wil Edgerton, professor of psychiatry; and Becky Hunter, research associate, will be project evaluators.

Hollister said several problems have contributed to the lack of mental health care in rural areas including isolation, cost and high social visibility. He explained that for many people alternative treatment methods are more acceptable.

"We see people whose lives are barren, and the constant burden of being unloved and unwanted makes them anxious and depressed. In many cases they just need friendship and companionship, the kind of help they can get from a support group," Hollister said.

\* \* \*

Dr. Enaam Y. Abou-Youssef has been named deputy director of the Program for International Training in Health in the School of Medicine.

She also was appointed visiting professor in the School of Nursing.

Abou-Youssef had been acting deputy director of the INTRAH program since 1979 and was field director of its predecessor, the African Health Training Institutions Project, from 1976-79. Since 1977 she also

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has been clinical associate professor of public health nursing.

A native of Alexandria, Egypt, Abou-Youssef is a former lecturer, associate professor and director of the Institute of Nursing at the University of Alexandria. She has been a consultant to the World Health Organization and an external examiner for nursing schools in Sudan and Kenya.

Abou-Youssef graduated from the University of Alexandria with a B.S. in 1960. She earned her M.S. in 1963 from the University of California at Los Angeles and her Ph.D. in 1967 from Columbia University Teacher's College, N.Y.

\* \* \*

Dr. Albert M. Collier and Dr. Louis E. Underwood, Department of Pediatrics, have been appointed to full professor in the School of Medicine effective Jan. 1.

Collier, who was born in Elba, Ala., came to the University of North Carolina at Chapel Hill in 1968 as a postdoctoral fellow. He became assistant professor of pediatrics in 1970.

He is the assistant director of health programs and heads health research at Frank Porter Graham Child Development Center. He also is associate director of the Center for Environmental Health and Medical Sciences.

His research deals with infectious disease such as pneumonia and middle ear infections in children. At the environmental health center, he is researching the effects of pollution on people.

Collier earned his B.S. and his M.D. from the University of Miami School of Medicine at Coral Gables, Fla. He is a member of the Infectious Disease Society of America and is a diplomate of the American Board of Pediatrics.

Underwood, a Frankfort, Ky., native, joined the UNC-CH faculty in 1970, after having been a pediatric resident at North Carolina Memorial Hospital and fellow in pediatric endocrinology at the School of Medicine earlier. He also has held positions with Vanderbilt University Hospital and the U.S. Naval Hospital in Chelsea, Mass.

His research interests include the hormonal factors controlling growth, particularly somatomedin, a factor in blood plasma that actually causes growth. In 1974 he received the Jefferson-Pilot Fellowship in Academic Medicine for this research.

Underwood earned his A.B. from the University of Kentucky and his M.D. from Vanderbilt University. He is a diplomate of the American Board of Pediatrics and is active in the medical advisory board of the National Pituitary Agency, the American Board of Pediatrics, the Lawson Wilkins Pediatric Endocrine

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A three-year research grant totaling \$125,226 has been awarded to Dr. Arthur J. Prange Jr., professor of psychiatry and neurobiology and a member of the Biological Sciences Research Center of the Child Development Institute.

The grant, from the National Institute of Mental Health, will fund studies of the properties of neurotensin, an endogenous neuropeptide.

Other researchers involved in the project are: Dr. John S. Kizer, assistant professor of pharmacology and medicine; Dr. Daniel Luttinger, postdoctoral research fellow; and Charles B. Nemeroff, Susan K. Burgess and Peter T. Kalivas, fellow trainees.

\* \* \*

Dr. James F. Newsome, professor of surgery, and Dr. Colin G. Thomas Jr., chairman and professor of surgery, presented papers at the Southern Surgical Association meeting Dec. 8-10 in Palm Beach, Fla.

\* \* \*

Dr. Eugene S. Mayer, associate dean and director of the Area Health Education Centers program, and Thomas J. Bacon, AHEC associate director for evaluation,

attended the Southern Regional Education Conference Dec. 15-16 in Atlanta.

\* \* \*

Dr. David Kaufman, professor of pathology and biochemistry, gave talks Nov. 5-6 at Temple University in Philadelphia.

\* \* \*

Dr. Robert L. Capizzi, professor and chief, division of medical oncology, was a visiting professor Nov. 14-15 at Walter Reed Army Medical Center in Washington, D.C. Capizzi also participated in a site visit Dec. 2-3 at the Sidney Farber Cancer Center in Boston.

\* \* \*

Dr. George Johnson Jr., professor and chief, division of vascular surgery, presented a talk on "The Sugiura Procedure for Portal Hypertension and Bleeding Esophageal Varices," and moderated a panel on portal hypertension Dec. 4-6 at the Symposium on Operative Techniques in Vascular Surgery in Chicago.

Johnson was a visiting professor Dec. 11-12 at the Uniformed Services University of Health Sciences in Bethesda, Md. He presented a talk on "Oblative Operations/Bleeding Esophageal Varices."

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James F. Emmert, Executive Director

Rex R. Taggart, M.D., Medical Director

Dr. Cecil G. Sheps, professor of community medicine and hospital administration, was named ad hoc advisor to the 1981 White House Conference on Aging.

\* \* \*

W. Jackson Pledger, assistant professor of pharmacology, gave a talk on "The Control of Cell Proliferation" at the Cancer Research Center of the University of Texas Medical Center in Galveston Dec. 16.

Dr. Jeffry J. Andresen, assistant professor of psychiatry, was awarded the Journal of American Psychoanalytic Association Clinical Contribution Prize at the scientific meeting of the American Psychoanalytic Association Dec. 17-21 in New York City. The annual award is granted to one scientific paper from among those submitted each year to the journal. The paper titled, "Why People Talk to Themselves," was published in the Journal of American Psychoanalytic Association, Vol. 28, 1980.

## In Memoriam

### ALAN DAVIDSON, M.D.

Alan Davidson was born in St. Albans, Vt., on August 10, 1917, the son of Helen A. Davidson and Dr. Alan Davidson. He graduated from Dartmouth College in 1939 and after teaching high school for one year he entered the medical school of the University of Vermont and graduated first in his class in December 1943. He took postgraduate training in ophthalmology and otolaryngology at Duke University Medical Center from 1944 to 1946 and served in the U.S. Army Medical Corps from 1946 to 1948 as chief of the Eye, Ear, Nose and Throat Service of the 49th General Hospital in Tokyo. Following military service he did additional postgraduate training in ophthalmology at the Massachusetts Eye and Ear Infirmary in Boston.

Dr. Davidson started to practice ophthalmology and otolaryngology in New Bern in February 1949. He became certified by the American Board of Ophthalmology in 1950 and by the American Board of Otolaryngology in 1951. He was elected a Fellow of the American College of Surgeons in 1952. He was

past-president of the Craven County Medical Society and former chief of staff at St. Luke's Hospital (1954-1958) and of Craven County Hospital (1970). He was a member of the N.C. Medical Society, the American Medical Association, the American Academy of Ophthalmology and Otolaryngology and the North Carolina Ophthalmology and Otolaryngology Society. He was chairman of the E.E.N.T. Section of the state medical society from 1954 to 1958 and president of the North Carolina E.E.N.T. Society in 1960. He was a member of St. Paul's Catholic Church in New Bern.

He is survived by his wife, the former Anne Robinson Austin; a daughter, Anne A. Davidson of Spokane, Wash.; four sons, Alan Davidson III, M.D., of Longmeadow, Mass., Andrew Davidson, M.D., of New Bern, James P. Davidson of Greenville, N.C., and Robert S. Davidson of Raleigh; seven grandchildren; and one sister, Dorothy Davidson Kenyon of Burlington, Vt.

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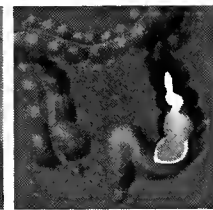
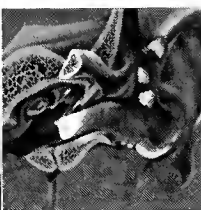
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**Precautions:** General: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

**Pregnancy:** Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folate acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

**Adverse Reactions:** All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. **Blood dyscrasias:** Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. **Allergic reactions:** Erythema



# Bactrim<sup>TM</sup> succeeds

in recurrent urinary tract infections\*

## from site to source

Bactrim continues to demonstrate high clinical effectiveness in recurrent urinary tract infections. Bactrim reaches effective levels in urine, serum, and renal tissue<sup>1</sup>...the trimethoprim component diffuses into vaginal secretions in bactericidal concentrations<sup>1</sup>... and in the fecal flora. Bactrim effectively suppresses Enterobacteriaceae<sup>1,2</sup> with little resulting emergence of resistant organisms.

1. Rubin RH, Swartz MN. *N Engl J Med* 303:426-432, Aug 21, 1980. 2. Data on file, Medical Department, Hoffmann-La Roche Inc.

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160 mg trimethoprim and 800 mg sulfamethoxazole

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maximizes results with B.I.D. convenience



\* In susceptible strains of indicated organisms

Please see previous page for summary of product information.

# North Carolina

## MEDICAL JOURNAL

The Official Journal of the NORTH CAROLINA MEDICAL SOCIETY □ □ □ May 1981, Vol. 42, No. 5

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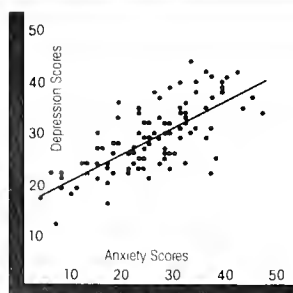
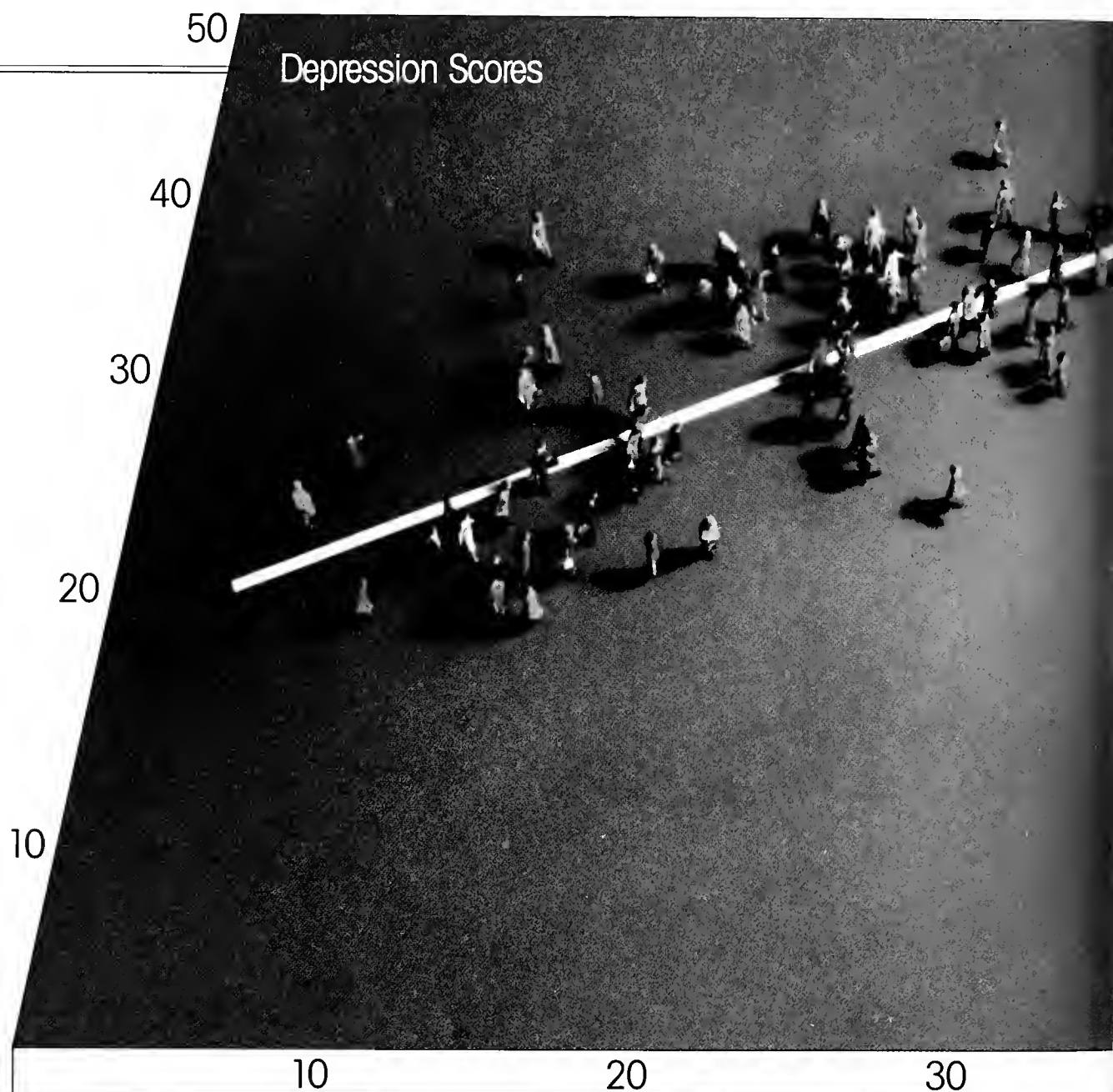
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# FOR THE 7 OF 10 NONPSYCHOTIC



## Clear correlation between anxiety and depression<sup>3</sup>

The above graph illustrates a relationship between anxiety and depression, indicating that patients seldom present with anxiety or depression alone; more often they have both in varying degrees. Data based on a sampling of 100 outpatients (64 male, 36 female) seen at a general psychiatric clinic.

<sup>3</sup>Adapted from Claghorn, J. The anxiety-depression syndrome. *Psychosomatics* 11 438-441, Sept-Oct 1970

# DEPRESSED PATIENTS WHO ARE ALSO ANXIOUS<sup>1,2</sup>

## Most depressed patients are also anxious. . .

Some authors estimate that 70% of all nonpsychotic patients with symptoms of depression have concomitant symptoms of anxiety.<sup>1,2</sup> One author found a distinct correlation between anxiety and depression scores in 100 nonpsychotic outpatients administered the Minnesota Multiphasic Personality Inventory in a general psychiatric clinic.<sup>3</sup> As depression scores increased, so did anxiety scores. No attempt was made to select patients other than to exclude psychotics.

## but not psychotic

The logic of treating both components of anxious depression is clear. Antipsychotics, like the phenothiazines, however, carry a well-documented risk of tardive dyskinesia.<sup>4</sup> Because of this, an APA Task Force recently recommended the judicious use of phenothiazines in cases other than chronic psychosis or the use of alternative treatments.

## A better way to give relief

Limbitrol combines the specific anxiolytic action of Librium® (chlordiazepoxide HCl/Roche)—a benzodiazepine with a long history of safe use—with the antidepressant action of amitriptyline, a tricyclic of established clinical efficacy. In comparison to phenothiazines, Limbitrol and its components have rarely been associated with tardive dyskinesia or other extrapyramidal side effects. And in terms of rapid response and patient compliance, Limbitrol appears to be superior to amitriptyline alone. Controlled multiclinic studies showed Limbitrol relieved more symptoms more rapidly than did amitriptyline.<sup>5</sup> Despite a higher incidence of drowsiness, the dropout rate due to side effects was lower with Limbitrol. (See adverse reactions section in summary of product information on next page. As with any CNS-acting agent, patients should be cautioned about driving or using dangerous machines while on therapy with Limbitrol.)

**References:** 1. Rickels K: Drug treatment of anxiety, in *Psychopharmacology in the Practice of Medicine*, ed. Jarvik ME. New York, Appleton-Century-Crofts, 1977, p. 316. 2. Schatzberg AF, Cole JO: Benzodiazepines in depressive disorders. *Arch Gen Psychiatry* 35:1359-1365, 1978. 3. Claghorn J: The anxiety-depression syndrome. *Psychosomatics* 11:438-441, 1970. 4. The Task Force on Late Neurological Effects of Antipsychotic Drugs: Tardive dyskinesia, summary of a task force report of the American Psychiatric Association. *Am J Psychiatry* 137:1163-1172, 1980. 5. Feighner JP *et al*: A placebo-controlled multicenter trial of Limbitrol versus its components (amitriptyline and chlordiazepoxide) in the symptomatic treatment of depressive illness. *Psychopharmacology* 61:217-225, 1979.

Anxiety Scores

50

In moderate depression and anxiety

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## Relief without a phenothiazine

Please see summary of product information on next page.



## **LIMBITROL® TABLETS Tranquilizer—Antidepressant**

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Relief of moderate to severe depression associated with moderate to severe anxiety

**Contraindications:** Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use, then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.

**Warnings:** Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients (Arrhythmias, sinus bradycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

**Usage in Pregnancy:** Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies.

**Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage, withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline, symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).

**Precautions:** Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated. Sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12.

In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.

**Adverse Reactions:** Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs.

**Cardiovascular:** Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

**Psychiatric:** Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.

**Neurologic:** Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.

**Anticholinergic:** Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.

**Allergic:** Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.

**Hematologic:** Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.

**Gastrointestinal:** Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.

**Endocrine:** Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels.

**Other:** Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

**Overdosage:** Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

**Dosage:** Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly. Limbitrol 10-25, initial dosage of three to four tablets daily in divided doses, increased to six tablets or decreased to two tablets daily as required. Limbitrol 5-12.5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher doses.

**How Supplied:** White, film-coated tablets, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) and blue, film-coated tablets, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—baffles of 100 and 500, Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10. Prescription Paks of 50.

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May 6-9, 1982

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What else are physicians doing? Minimizing their patients' hospital stays, whenever possible. Reevaluating routine admissions procedures. Questioning the real need of the diagnostic tests they order for their patients. Avoiding duplicate testing. Trying to discourage their patients' demands for unnecessary medication, treatment or hospitalization. Compiling daily logs of their medical decisions and what they cost. And more.

More physicians today realize what a tough problem we're all faced with. They know this is a challenge for medicine. And that physicians are in the best position to deal with and solve the problem.

\*PATIENT CARE Magazine—Outlook 1977, "Face-Off: Cost Containment vs. Chaos," January 1, 1977

Lyle CB, et al. "Practice habits in a group of eight internists," ANNALS OF INTERNAL MEDICINE 84 (May 1976), 594-601.

Schroeder SA, et al. "Use of laboratory tests and pharmaceuticals: variation among physicians and effect of cost audit on subsequent use," JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION 225 (Aug. 20, 1973), 969-73



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#### References:

Rosenthal, P., and Liebman, W.M: Comparative study of stool examinations, duodenal aspiration, and pediatric Entero-Test for giardiasis in children. *J. PEDIAT.* 96: 278 (Feb.) 1980.

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Gilman, R. H: Identification of gall typhoid carriers by a string bladder device. *The Lancet*: April 14, p. 795, 1979.



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- Economical; one tablet for each family member.

**Contraindications** VERMOX is contraindicated in pregnant women (see: Pregnancy Precautions) and in persons who have shown hypersensitivity to the drug.

**Precautions** **PREGNANCY:** VERMOX has shown embryotoxic and teratogenic activity in pregnant rats at single oral doses as low as 10 mg/kg. Since VERMOX may have a risk of producing fetal damage if administered during pregnancy, it is contraindicated in pregnant women.

**PEDIATRIC USE:** The drug has not been extensively studied in children under two years; therefore, in the treatment of children under two years the relative benefit/risk should be considered.

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**Dosage and Administration** The VERMOX tablet may be chewed, swallowed or crushed and mixed with food. For control of pinworm (enterobiasis) a single tablet is administered orally, one time. If patient is not cured three weeks after treatment, a second course of treatment is advised.

<sup>†</sup> Registered trademark of Parke-Davis.

<sup>††</sup> Because VERMOX has not been extensively studied in children under two years of age, the relative benefit/risk should be considered before treating these children. VERMOX is contraindicated in pregnant women (see: Pregnancy Precautions) and in persons who have shown hypersensitivity to the drug.

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Roger L. McCauley, M.D.  
Larry T. Burch, M.D.  
Edward H. Weaver, M.D.  
Robert W. Gibson, M.D.  
James Mattox, M.D.  
Ali Jarrahi, M.D.  
Selwyn Rose, M.D.  
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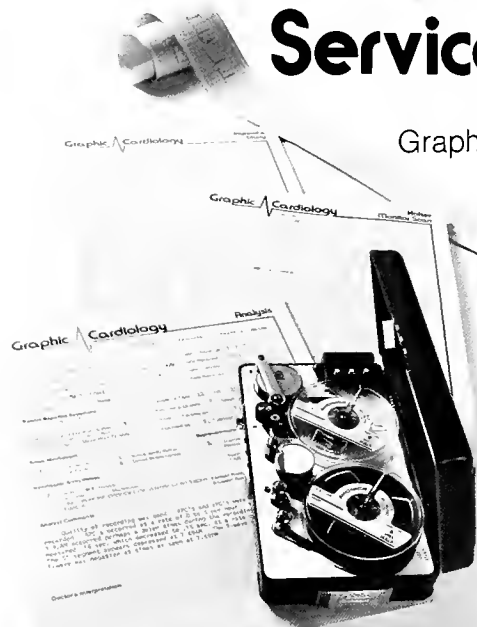
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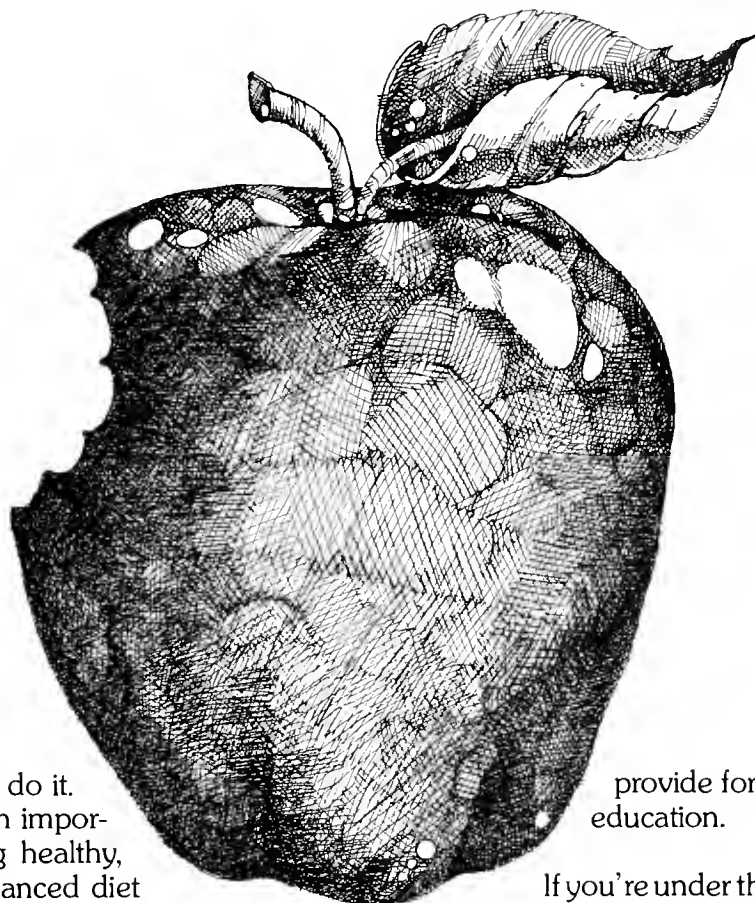
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A military physician practicing in the Southeast United States is afforded an opportunity for experience and leisure activities unlike nearly any other part of the U.S. If you like hunting, fishing, tennis, water sports, etc., outdoor activities combined with an excellent work environment we may have something for you.

The following is a list of the major Army Community Hospitals, in the Southeast, which have vacancies:

Fort Polk, Leesville, LA

Fort McClellan, Anniston, AL

Fort Benning, Columbus, GA

Fort Rucker, Dothan, AL

Fort Stewart, Savannah, GA

Fort Jackson, Columbia, SC

Redstone Arsenal, Huntsville, AL

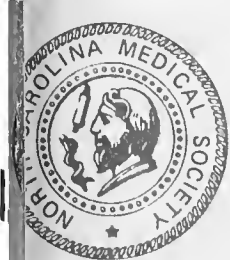
Fort Bragg, Fayetteville, NC

Vacancies may vary as physicians arrive and depart but will exist in nearly every specialty at one medical facility or another. To obtain more information and vacancies by specialty please contact the Army Medical Department Personnel Counselor listed below. Be our guest at one of the above medical facilities or any other Army Medical facility.

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# PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

NO. 12

MAY 1981

Greetings:

This is my last monthly newsletter as your President. The year has passed all too fast! It was my pleasure to install our new President, Dr. Josephine Newell, Saturday night, May 9th, in Pinehurst at the close of the 127th Annual Meeting of the Society.

Dr. Marshall Redding of Elizabeth City was chosen by the House of Delegates as President-Elect to succeed Dr. Newell in 1982.

Elected by the House of Delegates at the First Session on Thursday, May 7th, to serve with Dr. Newell this year and also installed on Saturday were: Dr. John Foust, Charlotte, First Vice-President, and Dr. Emery Miller, Winston-Salem, Second Vice-President. Dr. Henry Carr, Clinton, Speaker of the House of Delegates, and Dr. Reginald Harris, Shelby, Vice-Speaker, were re-elected and installed.

Others elected by the House are as follows:

## COUNCILORS (3-year term)

Fifth District - Dr. Bruce B. Blackmon, Buies Creek (re-elected)  
Seventh District - Dr. James B. Greenwood, Charlotte  
Tenth District - Dr. Charles T. McCullough, Jr., Asheville (re-elected)  
First District - Dr. Robert E. Lane, Edenton (Elected to fill unexpired term)

## VICE-COUNCILORS (3-year term)

Fifth District - Dr. Giles L. Cloninger, Jr., Hamlet (re-elected)  
Seventh District - Dr. Thomas L. Dulin, Charlotte  
Tenth District - Dr. George W. Brown, Hazelwood  
First District - Dr. James M. Watson, Elizabeth City (Elected to fill unexpired term)

Dr. Louis Shaffner, Winston-Salem was re-elected for a two-year term as an AMA Delegate and Dr. Jesse Caldwell, Jr., Gastonia, was elected an AMA Delegate for a two-year term beginning January 1982. Dr. D. E. Ward, Jr., Lumberton was re-elected an AMA Alternate Delegate and two new AMA Alternate Delegates were elected Dr. Thomas Dameron, Raleigh, and Dr. Josephine Newell, Raleigh.

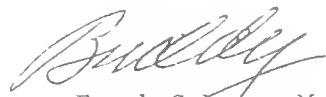
On the Commission of Health Services for a four-year term, Dr. Jesse H. Meredith, Winston-Salem, and Dr. Earl Trevathan, Greenville, were re-elected. Dr. David T. Tayloe of Washington was re-elected to a four-year term on the North Carolina Medical Care Commission. Dr. Jack Hughes, the Constitutional Secretary of the Society, was elected to the Editorial Board of the North Carolina Medical Journal, to fill the unexpired term of Dr. John S. Rhodes, who had resigned.

Some of the actions taken by the House of Delegates are as follows: (1) Official minutes of the Council will not be verbatim but contain a summary of information, proposed motions and action(s) taken; (2) The budget was approved with \$60,000 transferred to the General Fund from the Operating Reserve. The Operating Reserve will be frozen at \$800,000. Future interest earned by the Operating Reserve will be used in the General Fund; (3) A Section on Allergy and Clinical Immunology was approved; (4) Continuation of the Legislative Doctor of the Day Program was approved; (5) Continuing Medical Education requirement for membership was reaffirmed; (6) Adopted as policy the support of health planning and peer review on a Local Community Voluntary Basis; (7) To work with the AMA for repeal of the National Health Planning Act (P.L. 93-641)(HSA's); (8) Continued support of PSRO; (9) Supported development of specific standards for psychiatric and medical practice in public community mental health programs; (10) Endorsed the unified system of admission to the public mental health system; (11) Encouraged formation of joint practice committees of physicians and nurses in local hospitals for better cooperation; (12) Directed the Council to study Medicare and Medicaid reimbursement with reference to the 1975 Wayne County Resolution; (13) Requested that Congressional Representatives, as well as AMA Delegates, through the AMA, introduce legislation to clarify professional and business use expense of automobiles; (14) Oppose legislation that would allow pharmacists to prescribe; (15) Supported introduction of legislation to provide physician immunity for hospital physicians and their duties on various staff functions; (16) Expressed opposition to legislation proposed for rate setting in hospitals; (17) Supported the present policy of providing state funding for abortions for the poor and indigent; (18) Supported legislation to protect the confidentiality and non-discoverability of records and proceedings of hospital medical staffs; (19) Opposed legislation that would dictate to physicians the management of pregnant minors; (20) Recommended seeking representation on the Governor's Waste Management Board and urged development of hazardous and low level radioactive waste management plan; (21) Reaffirmed a recommendation that all local medical societies form liaison committees to work with local health departments. Other actions will be published in the Bulletin and a complete resume will appear in the Annual Transactions.

I want to take this opportunity to express my sincere appreciation to those many, many physicians who were so helpful and supportive this year. I wish for Dr. Newell and our officers the same excellent support as well as wishing for them a most successful and pleasant year. I want to express a particular THANK YOU to Past President Ben Warren, who served as Master of Ceremonies at the President's Dinner Saturday night in Pinehurst. I survived his "This is Your Life" with great enjoyment and deep appreciation to all concerned.

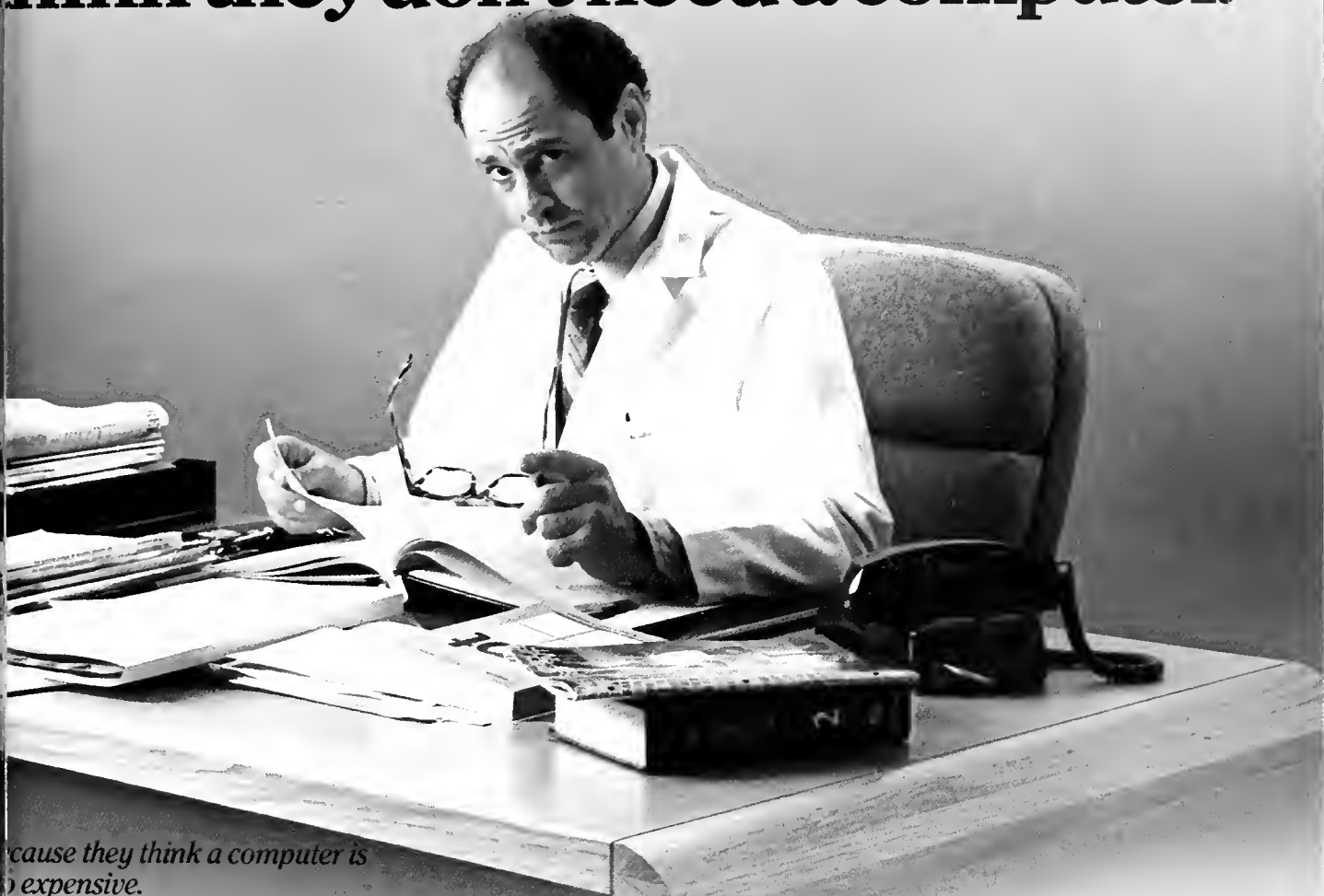
I hope all of you will have a fine summer and it's with every good wish to you as I finish my term as your President. I am most

Sincerely,



Frank Schner, M.D.  
President

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Specify



Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

Please consult complete prescribing information, a summary of which follows:

**Indications:** Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows: "Possibly" effective as adjunctive therapy in the treatment of peptic ulcer and in the treatment of the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis. Final classification of the less-than-effective indications requires further investigation.

**Contraindications:** Glaucoma, prostatic hypertrophy, benign bladder neck obstruction, hypersensitivity to chlordiazepoxide HCl and/or clidinium bromide

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Physical and psychological dependence rarely reported on recommended doses, but use caution in administering Librium® (chlordiazepoxide HCl/Roche) to known addiction-prone individuals or those who might increase dosage, withdrawal symptoms (including convulsions) reported following discontinuation of the drug.

**Usage in Pregnancy:** Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.

As with all anticholinergics, inhibition of lactation may occur

**Precautions:** In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially, increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants, causal relationship not established.

**Adverse Reactions:** No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated, avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered: isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction, changes in EEG patterns may appear during and after treatment, blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, i.e., dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.



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\*Zantac has been available in the U.S. for over 10 years for its indication. Please see the summary of product characteristics for full prescribing information on the next page.

Photograph of simulated gastric acid secretion.

Although weight loss achieved in a weight control program varies from patient to patient, this simulated sequence of a professional model illustrates dramatically the benefits of a successful weight loss program.



cece getting there...

...takes dietary restriction, regular exercise, behavior modification, and sometimes the addition of an effective anorectic.

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# Tenuate® Dospan®<sup>IV</sup> (diethylpropion hydrochloride NF)

75 mg. controlled-release tablets

the #1 prescribed anorectic

An effective short-term adjunct in an indicated weight loss program

Overweight patients in certain diagnostic categories often require strict obesity control. Diethylpropion hydrochloride has been reported useful in obese patients with certain complications. While it is not suggested that Tenuate in any way reduces these complications in the overweight, it may have a useful place as a short-term adjunct in a prescribed dietary regimen. Tenuate should not be administered to patients with severe hypertension; see additional Warnings and Precautions on this page.

In uncomplicated obesity

Many patients, on the other hand, present with excess fat but no disease. While this condition is often termed uncomplicated obesity, complications of both a social and a psychologic nature may be distressingly real for the patients. In these cases, a short-term regimen of Tenuate can help reinforce your dietary counsel during the important early weeks of an indicated weight loss program.

Clinical effectiveness

The anorectic effectiveness of diethylpropion hydrochloride is well documented. No less than 18 separate double-blind, placebo-controlled studies attest to its usefulness in daily practice.<sup>1</sup> And the unique chemistry of Tenuate provides "... anorectic potency with minimal overt central nervous system or cardiovascular stimulation."<sup>2</sup> Compared with the amphetamines, diethylpropion has minimal potential for abuse.

Tenuate—it makes sense.  
And it's responsible medicine.

# Merrell

Tenuate®<sup>IV</sup>  
(diethylpropion hydrochloride NF)

Tenuate Dospan®<sup>IV</sup>  
(diethylpropion hydrochloride NF)  
controlled-release

AVAILABLE ONLY ON PRESCRIPTION

#### Brief Summary

**INDICATION:** Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

**CONTRAINDICATIONS:** Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

**WARNINGS:** If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle, the patient should therefore be cautioned accordingly. **Drug Dependence:** Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. **Use in Pregnancy:** Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. **Use in Children:** Tenuate is not recommended for use in children under 12 years of age.

**PRECAUTIONS:** Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

**ADVERSE REACTIONS:** **Cardiovascular:** Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. **Central Nervous System:** Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache; rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. **Gastrointestinal:** Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. **Allergic:** Urticaria, rash, ecchymosis, erythema. **Endocrine:** Impotence, changes in libido, gynecostasia, menstrual upset. **Hematopoietic System:** Bone marrow depression, agranulocytosis, leukopenia. **Miscellaneous:** A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

**DOSEAGE AND ADMINISTRATION:** Tenuate (diethylpropion hydrochloride): One 25 mg. tablet three times daily, one hour before meals, and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg. tablet daily, swallowed whole, in mid-morning. Tenuate is not recommended for use in children under 12 years of age.

**OVERDOSAGE:** Manifestations of acute overdosage include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phentolamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

Product Information as of January, 1980

MERRELL-NATIONAL LABORATORIES Inc.  
Cayey, Puerto Rico 00633

Direct Medical Inquiries to:  
MERRELL DOW PHARMACEUTICALS INC.  
Subsidiary of The Dow Chemical Company  
Cincinnati, Ohio 45215  
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**References:** 1. Citations available on request from Merrell Dow Pharmaceuticals Inc., Cincinnati, Ohio 45215. 2. Hoekenga, M. T. et al: A comprehensive review of diethylpropion hydrochloride. In Central Mechanisms of Anorectic Drugs, S. Garattini and R. Samanin, Ed., New York: Raven Press, 1978, pp. 391-404.

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- **100% cure rate with Tegopen® (cloxacillin sodium)**
- **only a 60% cure rate with penicillin V-K**



**As seen on admission**



**After one week of penicillin V-K therapy**



**Two weeks after initiation of TEGOPEN therapy**

Treatment failure was judged to have occurred when lesions increased in size and/or number during the initial week of treatment with penicillin V-K. No treatment failures occurred with Tegopen.

\*Data on file, Bristol Laboratories.

#### Brief Summary of Prescribing Information

**TEGOPEN®**  
(cloxacillin sodium)  
Capsules and Oral Solution

For complete information, consult Official Package Circular

(12) 9/11/75

#### INDICATIONS:

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected. (See Important Note below.)

Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

#### IMPORTANT NOTE

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital. For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing. Such strains of staphylococci have been capable of producing serious disease, in some instances resulting in fatality. Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

#### CONTRAINDICATIONS:

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.

## RESULTS OF ORAL THERAPY revealed a high percentage of treatment failures with penicillin V potassium, but *no* failures with Tegopen.

		Given Tegopen® (cloxacillin sodium)	Given penicillin V-K
<b><i>Staphylococcus aureus</i></b>	(78 patients)	39	39
Returned to clinic at one week .....		29†	38†
Treatment failure at one week .....		0	18 (47.4%)
<b><i>Staphylococcus aureus</i> and <i>Streptococcus pyogenes</i></b>	(9 patients)	4	5
Returned to clinic at one week .....		4	5
Treatment failure at one week .....		0	2 (40%)
<b>No initial bacterial growth</b>	(14 patients)	9	5
All 14 healed, regardless of which antibiotic was administered.			
<b>Beta-hemolytic <i>Streptococcus</i></b>	(1 patient)	0	1
<b>TOTALS:</b>	<b>102 patients</b>	<b>52 patients</b>	<b>50 patients</b>

†Eleven patients did not return for their one-week checkup. These were all called by telephone, and their families reported

the lesions had healed. One patient was dropped from the study, early, because of adverse reaction to medication.

### STUDY: DESCRIPTION/PROTOCOL

- 102 nonselected subjects, with initial bacteriology as follows: 77% *Staphylococcus aureus*, 9% mixed *Staphylococcus aureus* and *Streptococcus pyogenes*, and 1% beta-hemolytic *Streptococcus*.†
- All patients were given randomized therapy—Tegopen capsules or oral solution, or penicillin V-K tablets or oral solution, in recommended dosages according to body weight.

- All patients were evaluated after one week's therapy. If there was no improvement, therapy was switched to the other antibiotic. The "other antibiotic" proved to be Tegopen 100% of the time because no treatment failures had occurred with Tegopen.
- A final assessment of progress was made two weeks after initiation of Tegopen therapy.

†The remainder, to equal 100%, consisted of 14 patients (13%) who exhibited no initial bacterial growth. These 14 were all healed, whether given Tegopen or penicillin V-K.

# TEGOPEN®

## (cloxacillin sodium)

### -effective therapy for staph infections of the skin and skin structures

#### WARNING:

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines, and corticosteroids.

Safety for use in pregnancy has not been established.

#### PRECAUTIONS:

The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy, appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

#### ADVERSE REACTIONS:

Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose

stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

#### USUAL DOSAGE:

Adults: 250 mg. q. 6h.

Children: 50 mg./Kg./day in equally divided doses q. 6h. Children weighing more than 20 Kg. should be given the adult dose. Administer on empty stomach for maximum absorption.

**N.B.: INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR ACUTE GLOMERULONEPHRITIS.**

#### SUPPLIED:

Capsules—250 mg. in bottles of 100. 500 mg. in bottles of 100.  
Oral Solution—125 mg./5 ml. in 100 ml. and 200 ml. bottles.

**BRISTOL®**

Bristol Laboratories  
Division of Bristol-Myers Company  
Syracuse, New York 13201


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# Acute pain is no laughing matter.

## The first prescription for the first days of acute pain **Empirin® $\bar{c}$ Codeine #3**


Each tablet contains: aspirin, 325 mg; plus codeine phosphate, 30 mg, (Warning — may be habit-forming). 

**For the millions of patients who need the potency of aspirin and codeine for their acute pain.**

The pain of fractures, strains, sprains, burns and wounds is at its peak during the first three to four days following trauma. The potent action of Empirin  $\bar{c}$  Codeine begins to work within 15 minutes of oral administration, an important advantage during this acute pain period. Empirin  $\bar{c}$  Codeine has unique bi-level action to attack pain at two critical points: peripherally at the site of injury and centrally at the site of pain awareness.

For the most effective dosage in treating acute pain, begin with ... two tablets of Empirin  $\bar{c}$  Codeine #2 or #3, every four hours. Titrate downward as pain subsides.

### **EMPIRIN® with Codeine**

**DESCRIPTION:** Each tablet contains aspirin (acetylsalicylic acid) 325 mg plus codeine phosphate in one of the following strengths: No. 2 — 15 mg, No. 3 — 30 mg, and No. 4 — 60 mg. (Warning — may be habit-forming) 

**CONTRAINDICATIONS:** Hypersensitivity to aspirin or codeine.

#### **WARNINGS**

**Drug dependence:** Empirin with Codeine can produce drug dependence of the morphine type and, therefore, has the potential for being abused. Psychic dependence, physical dependence, and tolerance may develop upon repeated administration of this drug and it should be prescribed and administered with the same degree of caution appropriate to the use of other oral, narcotic-containing medications. Like other narcotic-containing medications, the drug is subject to the Federal Controlled Substances Act.

**Use in ambulatory patients:** Empirin with Codeine may impair the mental and/or physical abilities required for the performance of potentially hazardous tasks such as driving a car or operating machinery. The patient using this drug should be cautioned accordingly.

**Interaction with other central nervous system (CNS) depressants:** Patients receiving other narcotic analgesics, general anesthetics, phenothiazines, other tranquilizers, sedative-hypnotics, or other CNS depressants (including alcohol) concomitantly with Empirin with Codeine may exhibit an additive CNS depression. When such combined therapy is contemplated, the dose of one or both agents should be reduced.

**Use in pregnancy:** Safe use in pregnancy has not been established relative to possible adverse effects on fetal development. Therefore, Empirin with Codeine should not be used in pregnant women unless, in the judgment of the physician, the potential benefits outweigh the possible hazards.

#### **PRECAUTIONS:**

**Head injury and increased intracranial pressure:** The respiratory depressant effects of narcotics and their capacity to elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions or a pre-existing increase in intracranial pressure. Furthermore, narcotics produce adverse reactions which may obscure the clinical course of patients with head injuries.

**Acute abdominal conditions:** The administration of Empirin with Codeine or other narcotics may obscure the diagnosis or clinical course in patients with acute abdominal conditions.

**Allergic:** Precautions should be taken in administering salicylates to persons with known allergies; patients with nasal polyps are more likely to be hypersensitive to aspirin.

**Special risk patients:** Empirin with Codeine should be given with caution to certain patients such as the elderly or debilitated, and those with severe impairment of hepatic or renal function, hypothyroidism, Addison's disease, prostatic hypertrophy or urethral stricture, peptic ulcer, or coagulation disorders.

**ADVERSE REACTIONS:** The most frequently observed adverse reactions to codeine include light-headedness, dizziness, sedation, nausea and vomiting. These effects seem to be more prominent in ambulatory than in nonambulatory patients and some of these adverse reactions may be alleviated if the patient lies down. Other adverse reactions include euphoria, dysphoria, constipation, and pruritus.

The most frequently observed reactions to aspirin include headache, vertigo, ringing in the ears, mental confusion, drowsiness, sweating, thirst, nausea, and vomiting. Occasional patients experience gastric irritation and bleeding with aspirin. Some patients are unable to take salicylates without developing nausea and vomiting. Hypersensitivity may be manifested by a skin rash or even an anaphylactic reaction. With these exceptions, most of the side effects occur after repeated administration of large doses.

**DOSEAGE AND ADMINISTRATION:** Dosage should be adjusted according to the severity of the pain and the response of the patient. It may occasionally be necessary to exceed the usual dosage recommended below in cases of more severe pain or in those patients who have become tolerant to the analgesic effect of narcotics. Empirin with Codeine is given orally. The usual adult dose for Empirin with Codeine No. 2 and No. 3 is one or two tablets every four hours as required. The usual adult dose for Empirin with Codeine No. 4 is one tablet every four hours as required.

**DRUG INTERACTIONS:** The CNS depressant effects of Empirin with Codeine may be additive with that of other CNS depressants. See WARNINGS.



**Burroughs Wellcome Co.**  
Research Triangle Park  
North Carolina 27709

# Diagnosis and Management of Pyeloureteral Necrosis Following Renal Transplantation

James Mandell, M.D., Peter S. Stevens, M.D., and Stanley R. Mandel, M.D.

**ABSTRACT** In a series of 70 consecutive renal transplants, six patients (8.5%) were treated for postoperative pyeloureteral necrosis. The etiology of this complication is thought to be secondary to vascular compromise of the renal pelvis and ureter, as a result of faulty surgical technique or rejection. Early operative intervention is crucial in preserving renal function and in lowering patient mortality. Pyeloureteral anastomosis or repeat ureteroneocystomy with internal drainage was uniformly successful in establishing urinary tract continuity.

**P**YELOURETERAL necrosis with resulting urinary extravasation is a serious complication of transplant surgery. Although the etiology is controversial, it is clear that early operative intervention is crucial to renal salvage and lower patient mortality. Six patients in a series of 70 consecutive renal transplants (8.5%) developed post-transplant pyeloureteral necrosis, and are herein presented. The varieties of diagnostic and therapeutic modalities used in the management of this problem are discussed.

## SURGICAL TECHNIQUES

All potential transplant recipients are routinely evaluated at North Carolina Memorial Hospital with urine cultures, voiding cystourethrography and cystoscopy. Echography and/or retrograde ureterograms are performed if no prior documentation of renal size or anatomy is available. Routine pre-transplant nephrectomy has not been performed since 1971, except in those patients with malignant hypertension or documented chronic pyelonephritis. At the time of transplantation, a ureteroneocystostomy is performed utilizing a non-intubated, short, submucosal tunnel. A cystogram is performed on the fourth postoperative day, and the urethral catheter removed if no extravasation is present.

Secondary reconstruction of the collecting system has been performed by repeat ureteroneocystostomy when the ureter appeared unquestionably viable. A fenestrated 12 French silastic catheter is placed as an internal ureteral stent and brought out through the urethra or bladder wall. If the ureter or renal pelvis appears ischemic, recipient ipsilateral nephrectomy and a watertight spatulated anastomosis of the donor pelvis or ureter to the recipient ureter is preferred. A 12 French silastic catheter is placed across the anastomosis and brought out through the kidney as a stenting

nephrostomy. This is left in place for a period of three to four weeks postoperatively.

## CASE REPORTS

*Case 1:* M. W., an 18-year-old black male with endstage glomerulonephritis, received a cadaveric renal transplant on December 2, 1970. Postoperative oliguria, which progressed to anuria, was attributed to rejection, with intravenous urography demonstrating only non-visualization. Three weeks postoperatively, at the time of open renal biopsy, a perforation in the renal pelvis was found, and a circle nephropyllostomy tube was placed. Intercurrent infection with worsening of the clinical pyelonephritis necessitated transplant nephrectomy in December, 1975. A second cadaver transplant was performed in March 1976 and the patient continues with acceptable renal function.

*Case 2:* N. B., a 47-year-old white male with chronic glomerulonephritis and chronic prostatitis, underwent a sibling related renal transplant on November 11, 1975. At surgery, the bladder mucosa was noted to be markedly inflamed. Postoperative cystography demonstrated a normal bladder contour without extravasation. On the basis of diminished urinary output, abnormal renal scans, fever, abdominal tenderness and leukocytosis, a clinical diagnosis of rejection was made.

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Presented at the Southeastern Section Meeting of the American Urologic Association, Puerto Rico, March, 1980. Reprint requests to Dr. Mandell, Division of Urology, Department of Surgery, 428 Clinical Sciences Building, The University of North Carolina School of Medicine, Chapel Hill, N.C. 27514.





Figure 1. Cystogram showing lateral vesical displacement without extravasation.

and the patient begun on high dose steroids and radiation therapy. Pneumonia and pancreatitis ensued. Two weeks postoperatively, venography performed for evaluation of an edematous left lower extremity demonstrated hydronephrosis of the transplanted kidney and compression of the left side of the bladder. Repeat cystography (Fig. 1) revealed displacement of the lateral vesical wall without extravasation, and a retrograde ureterogram (Fig. 2) demonstrated a distal ureteral leak. Revision of the ureteroneocystostomy using the Paquin technique was performed. No further urologic problems were encountered, and renal function remained normal, although the patient died six months later from complications associated with pancreatic pseudocyst, gastro-intestinal bleeding, and brain abscess.

*Case 3:* J. M., a 37-year-old black



Figure 2. Retrograde under fluoroscopy revealing ureteral extravasation.

male with endstage nephrosclerosis, received a cadaveric renal transplant on June 24, 1976. Urine output was adequate intraoperatively, but within hours anuria ensued. Renal scans were interpreted as compatible with acute tubular necrosis. Postoperative cystography showed deviation of the bladder to the right without extravasation. Nine days postoperatively, a repeat renal scan was interpreted as showing urinary extravasation, and in retrospect, was similar to previous studies. Exploratory laparotomy revealed separation of the implanted ureter from the bladder with a large perivesical hematoma and free urinary extravasation. Revision of the ureteroneocystostomy was performed, and postoperative urine output was excellent. The patient died during this admission from multiple fungal abscesses, and post-mortem examination revealed a viable transplant and an intact collecting system.

*Case 4:* R. C., a 41-year-old white male with endstage glomerulonephritis received a sibling renal transplant, on January 19, 1977. Postoperatively, diminished urinary output was only partially responsive to diuretics. Renal imaging was interpreted as compatible with acute tubular necrosis or rejection, echography showed hydronephrosis without perinephric collection, and the patient was treated with high dose steroids and radiation therapy. Percutaneous renal biopsy was interpreted as showing evidence of acute tubular necrosis and chronic inflammation. Postoperative cystography demonstrated no extravasation and a normal bladder contour. Nine days postoperatively, the patient was explored because of abdominal pain and distention with a tentative diagnosis of colonic infarction. At surgery, however, the entire ureter and renal pelvis were necrotic. Ipsilateral nephrectomy and pyeloureterostomy were performed. Postoperatively the patient did well with serum creatinine reaching normal values.

*Case 5:* L. P., a 29-year-old female with chronic glomerulonephritis,

underwent a sibling related renal transplant on January 17, 1976. Two days postoperatively an increase in drainage from the wound was noted. Renal scan showed no definite extravasation, but a small amount of radioactivity of questionable significance was noted in the drainage fluid. Creatinine and BUN levels in the fluid were markedly higher than serum values but slightly below urinary levels. At exploration there was disruption of the ureterovesical anastomosis with a large perivesical clot. Revision of the ureteroneocystostomy was performed. Four days after the second operative procedure, the stenting catheter was displaced and abrupt oliguria was noted. Intravenous pyelography (Figs. 3 and 4) demonstrated retroperitoneal extravasation. At re-exploration, a totally necrotic ureter with ureterovesical separation was found, and ipsilateral nephrectomy and ureteroureterostomy were performed. The patient did well thereafter with serum creatinine levels returning to normal.

*Case 6:* J. W., a 28-year-old white male with endstage nephrosclerosis, underwent a cadaveric renal transplant on March 1, 1977. Postoperative cystography demonstrated normal bladder contour without extravasation. The patient



Figure 3. IVP showing unusually shaped collection dye at ureterovesical junction.

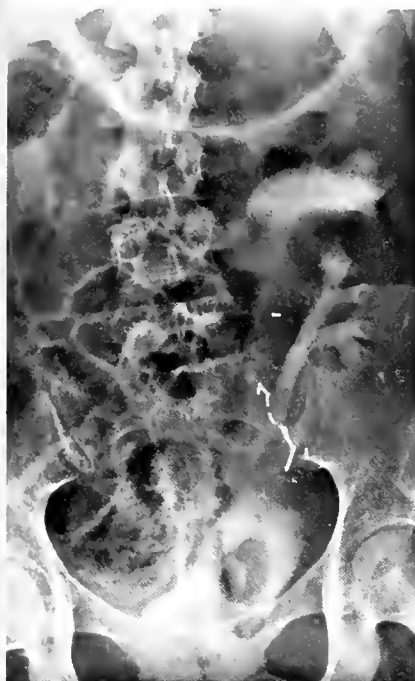


Figure 4. Delayed film revealing frank retroperitoneal extravasation.

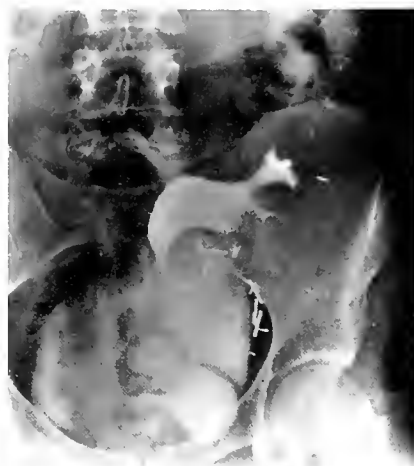


Figure 5. IVP showing dumb-bell shaped mass consisting of bladder and probable perivesical "pseudodiverticulum."



Figure 6. Antegrade pyelogram performed with ultrasound showing ureteral extravasation.

was treated for rejection with high dose steroids and radiation therapy, and at discharge three weeks postoperatively, serum creatinine was 2.8 mg/dl. An intravenous pyelogram (Fig. 5) performed one month later (after persistent asymptomatic urinary staphylococcal infection was noted) showed contrast entering a dumb-bell shaped mass which appeared to be a collection of urine outside the bladder. Renal scan was interpreted as demonstrating possible urinary extravasation with a collection of radioactive material near the inferior pole of the kidney. Cystography revealed lateral deviation of the bladder without extravasation, and at cystoscopy the left lateral wall of the bladder was compressed medially. Retrograde ureteral catheterization was unsuccessful. Under ultrasonic control, a catheter was placed percutaneously in the renal pelvis and an antegrade pyelogram (Fig. 6) was performed which demonstrated a distal ureteral leak. At exploration there was necrosis of the entire ureter and part of the renal pelvis, and ipsilateral nephrectomy and pyeloureterostomy were performed. Postoperatively the patient's serum creatinine returned to normal values.

### COMMENTS

Up to 12% of transplanted kidneys are lost secondary to technical problems, with urologic complications far in excess of other causes.<sup>1</sup> Starzl<sup>2</sup> reported a 9% incidence of postoperative complications utilizing the technique of non-intubated ureteroneocystostomy with a short submucosal bladder tunnel. The majority of transplant surgeons favor ureteroneocystostomy as a technique of choice, since the reported complication rate from either pyeloureterostomy or ureteroureterostomy is significantly higher.<sup>3</sup> Our complication rate of 8.5% is comparable with reported series of urinary extravasation and fistula formation.<sup>4</sup>

Ureteral necrosis is probably secondary to compromise of the vascular supply to the collecting system during donor nephrectomy. This is reportedly more common with living related graft recipients, and probably results from the more extensive perihilar dissection during donor nephrectomy when compared to cadaveric kidney procurement.<sup>5</sup> To preserve the hilar ureteral vessels, all perihilar dissection should be carried out medial to the gonadal vein on the left and close to the vena cava on the right. In addition, necrosis of the entire renal pelvis and ureter in association with severe graft rejection has been observed.<sup>6</sup>

The presence, location and anat-

omy of the native kidneys and collecting systems of a potential recipient should be determined. If earlier studies are unavailable, echography and/or retrograde ureterography are indicated. A history of urologic difficulties necessitates careful evaluation of the recipient's lower urinary system. Adequate treatment of pre-existent urologic disease, including reflux, obstruction, or infection, is extremely important. Our patients are all screened preoperatively with cystourethrography and cystoscopy.

The diagnosis of urinary extravasation is often difficult as graft rejection presents similar signs. Early diagnosis is imperative if wound infection, septicemia and death are to be prevented. Most morbidity and mortality have resulted from late intervention for reconstruction or allograft removal. Radiographic techniques, including renal nuclear scanning, are extremely valuable in determining allograft viability and differentiating between acute tubular necrosis, urinary obstruction, and rejection. However, in this series, this modality was only occasionally successful in defining urinary extravasation. Early intravenous pyelography is also helpful in delineating obstruction or extravasation, and in two patients led to prompt exploration and reconstruction. Cystography will often demonstrate bladder displacement, but even with ureterovesical disruption

failed to demonstrate urinary extravasation in this series of patients. Lateral vesical wall deviation demands exclusion of hematoma, urinoma, lymphocele, or fibrosis. Retrograde ureterograms can be helpful as with Case 2, but catheterizing the newly implanted ureteral orifice may be difficult. If hydronephrosis is present, percutaneous antegrade pyelography may establish the diagnosis.

Echography has been useful in demonstrating a perirenal or perivesical mass, but may not distinguish between a dilated collecting system, a lymphocele and an extravascular collection of urine. Comparison of creatinine and BUN concentrations in fluid obtained from the wound or aspirated under sonographic control to those in serum or bladder urine is very helpful in determining whether extravasation is present.

The remobilization necessary during ureteroneocystostomy following pyeloureteral necrosis may further compromise the ureteral vascularity. Therefore, anastomosis of the donor ureter or renal pelvis to the recipient's pelvic ipsilateral ureter is most often the procedure of choice,

although a host nephrectomy must usually be performed with this procedure. Patients with pretransplant nephrectomy for hypertension or pyelonephritis usually have this portion of the ureter undisturbed. In cases in which the recipient is in a precarious condition, an end to side ureteroureterostomy, leaving the host kidney *in situ*, may be done. If the distal ureter has been removed or is abnormal, repeat ureteroneocystostomy with or without Boari flap or pyelovesical anastomosis with a psoas hitch may be utilized. Renal salvage was completely successful in five of our patients in which either repeat ureteroneocystostomy or ureteropyelostomy was performed. In two (Cases 2 and 3) who died of infection related to immunosuppression, functioning ureterovesical anastomoses were present at the patient's demise.

## CONCLUSION

Pyeloureteral necrosis with urinary extravasation is a transplant complication fraught with potential morbidity and mortality. To decrease risk, careful preoperative recipient evaluation, preservation of

the renal hilar ureteral vessels during dissection, and careful attention to proper techniques for ureterovesical anastomosis are essential.

Diagnostic studies should be done early, since prolonged leakage is associated with increasing morbidity and mortality. But, despite renal scanning, intravenous and retrograde urography, cystography, echography and chemical laboratory determinations, this diagnosis can be elusive and therapeutic intervention delayed.

Although ureteroneocystostomy is favored as the primary method of implantation, in secondary salvage operations, pyeloureteral or ureteroureteral anastomosis with stenting silastic catheters is recommended.

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## Physical Diagnosis of Thoracic Aneurism

To the Editor of the Lancet

Sir,—as the diagnosis of thoracic aneurism of the aorta is often difficult and obscure, notwithstanding the various physical means we have now at our disposal for detecting it, I am desirous of mentioning a method of examination which has afforded me material assistance in diagnosing this disease (or even simple dilatation of the vessel), when it occurs, as is most generally the case, either in the ascending or the first part of the transverse portion of the arch.

The process is as follows:—Place the patient in the erect position, and direct him to close his mouth, and elevate his chin to the fullest extent, then grasp the cricoid cartilage between the finger and thumb, and use gentle upward pressure on it, when if dilatation or aneurism exist, the pulsation of the aorta will be distinctly felt transmitted through the trachea to the hand. The act of examination will increase laryngeal distress should this accompany the disease.

Yours, &c,

W. S. Oliver, M.D., Surgeon-Major.  
Sept. 13th, 1878.—Lancet, 1878.

## SPECIAL ARTICLE

# The Soul in Left-Handers: A Neurologic Site Visit

Edward V. Spudis, M.D.

IT seems that any comments about souls of human beings would be misplaced in a state medical journal. Consider, however, that the lifestyles of a vast majority of people alive now, the Iranians, for instance, are governed by a constant concern over the quality of after-life, and that many Third World people are fanatically concerned about nothing else. This is especially true if we wish to consider after-life and survival of the soul as similar concepts. Such intense pre-occupations with souls must influence mental and physical health, but now, in this decade, both rural and academic clinicians will actually be challenged to decide who or what has a soul, where it is, and how long it should be nurtured.

In one of the world's most widely circulated medical journals a special communication opposing brain-death legislation objects to any decisions based on cessation of brain function.<sup>1</sup> "Brain function is so defined as to take the place of the immaterial principle or Soul of man . . . It reduces the life of the human

person to a putative organic function of the material brain." The authors state that permanent idleness of the brain is not the same as loss of existence. We are left to decide how great the destruction must be to release the soul, or, if there is no destruction, when the soul actually leaves an idle brain. And, in the often-quoted *New England Journal of Medicine*, Christina Hoff states, "Each human life, no matter how impoverished, has a depth and meaning that transcends that of even the most gifted dolphin or chimpanzee"; that human lives characteristically "develop and unfold . . ." and are "generally worthier . . ." than those of animals whose desires are ". . . restricted to his place in time and space."<sup>2</sup> She offers animals moral status and the ability to feel pain but not to suffer.

These authors, and others, suggest that the soul may have an awareness distinct from the "content of awareness."<sup>3</sup> Being aware sounds like a form of being alive, and it is easy to predict that theories of the locations and care of such an awareness will be scrutinized carefully, as techniques for brain support evolve. The California cryogenic society preserves members in a feet-up-head-down position because inadvertent warming always

begins at the top of the tank. North Carolina physicians have been sheltered from such West Coast pioneers so far, but we will be forced to make more and more decisions about locations and departures of souls.

### THE NON-CEREBRAL SOUL

Weber illustrates one artist's concept of the soul as a newborn child exiting from the mouth of a 15th century dying patient.<sup>4</sup> The soul equated with after-life is an ancient concept. Critchley suggested that vapors rising from abdominal wounds were considered ominous trails of departing souls.<sup>5</sup> The heart, liver, spleen and intestine were considered important soul sites, prior to modern shifts to the head. The pineal seemed important at one time and is still the first choice of shy intellectuals in small social gatherings.

### THE SOUL MUST BE PARTLY IN THE BRAIN

Phrenologists stimulated efforts to compartmentalize brain activities. The crude cortical stimulations of the 18th century brought convincing evidence that the brain is neither anatomically or electrically homogenous. Does the soul have to be in a single place? The intestines

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and kidneys are no longer considered probable sites because they can be bypassed and replaced, and because thoughts are created elsewhere. The ability to think, to have the potential to think or to have thought at sometime in the past are all important criteria for soul anatomists. The heart has been a prime candidate to harbor souls or portions thereof, but organs have always been abandoned once their function has been clarified. The heart has a truly simple hydraulic assignment compared to that of the brain.

Geshwind points out that we habitually think of each other, and of patients, in a unitary fashion.<sup>6</sup> We seldom say, "Is your hypothalamus hungry?" He suggests that the disconnected spinal cord of a paraplegic patient causes urination, not the patient. An alternate attitude is that the nervous system cannot be subdivided at all, that all matter is connected by a superluminal nexus, that non-Newtonians believe the principle of local causes is false, and that no models of reality are possible.<sup>7</sup> From another viewpoint, that of a malpractice jury, clinicians need practical guidelines for what would probably seem like reality to the jury.

Although there are 15 billion neurons — approximately — and although the number of *possible* synaptic combinations is greater than the number of particles in the entire universe, certain regions of the brain do have distinctive, seemingly simple, functions.<sup>8</sup>

The primary receptive regions for sound, vision and touch are activated by specific incoming impulses that may be recorded from electrodes on the cortical surface, or the scalp, using newly-popular evoked response methods.<sup>9</sup> These regions are as near as four synapses to the source of stimulation and may be considered an extension of the peripheral sensory fibers. The olfactory brain neurons actually receive impulses from the peripheral receptor without passing a single synapse.<sup>10</sup> Insults to one of these central regions may be indistinguishable from lesions in the same pathway peripherally. We know

that a one-half square millimeter of primary visual cortex receives a few thousand fibers from one lateral geniculate, that these terminate on neurons arranged in six neat layers in a vertically partitioned cortex. Such a column is devoted to an evaluation of the field of a single retinal ganglion cell and alternates with columns receiving the same information from the opposite eye. These columns, like stacked boxes of Girl Scout cookies — six cookies to a box — are similar throughout the whole visual cortex. Axons from the second and third layers send an abstraction of this information forward into the temporal lobe language areas, and, specifically, into hippocampal-thalamic memory.<sup>11</sup> Similar localized reception occurs in the somatosensory cortex.

The soul is not likely to dwell in a peripheral nerve or a primary brain receptive area. This would exclude large areas of each temporal lobe, the post central gyri, each occipital cortex, optic tract, and geniculate body. Helen Keller lost most primary reception but no one has suggested she was soul-less.

#### A THALAMIC SITE

The thalami also have some well-recognized functions. Posterior nuclei are in part, simple switchers for incoming sensory signals from the extremities and face. Stimulation of the left ventrolateral thalamus in right-handers causes anomia.<sup>12</sup> A thalamic role in speech production was recently described in a landmark Russian article by Bechtereva, who can predict which words a subject is about to say by studying the firing sequences of groups of neurons.<sup>13</sup> Patients with implanted thalamic electrodes were asked to say specific words in response to pictures of furniture. After multiple trials a computerized average discharge pattern was identified: i.e., an electrical signature for a chair or table, and a generic pattern for all furniture. This electrical mind reading, if we can believe it, does not suggest that the thought of furniture necessarily arose in the neurons impaled. It does tend to confirm the growing

clinical and computerized tomography (CT) evidence that lesions confined to the thalamus may cause language problems. Anterior thalamic lesions interfere with memory. Long-term memory has an orderly topography with our most recent impressions residing in the hippocampi near the medial temporal tips. New ideas or events worth preserving seem to stuff themselves into the bulbous anterior ends driving older "packets" upward and then forward into the fornices, mammillary bodies, and anterior thalamus, somewhat like returning bowling balls.<sup>14</sup> Interestingly, immediate or instantaneous memory is possible if the primary receptive areas are preserved, but lesions disconnecting primary areas from the medial temporal lobe will disrupt *intermediate* memory, e.g., an inability to draw a floor plan of your home.<sup>15</sup> This circuitry is not restrictively lateralized since damage to one side may cause only mild forgetfulness, whereas bilateral damage, e.g., herpes simplex encephalitis, may cause devastating forgetfulness.

#### ARE MOTOR PATHWAYS MYSTERIOUS?

The precentral gyri seem devoted to neurons and supporting glial cells directly responsible for initiating impulses passing through the internal capsules into the peduncles and downward to anterior spinal cells. Extra pyramidal ganglia, e.g., caudate, globus pallidus, modify down-going motor discharges and are relatively expendable from the standpoint of intelligence and consciousness. A good example is the droll sophistication of scholars who develop severe Parkinson's disease. The cerebellum occupies approximately 10% of the intracranial volume but may be congenitally absent in normal people. Irritating cerebellar lesions may cause aberrations of movement but not of any uniquely human qualities.

When strength and coordination are maintained, but the patient has forgotten (apraxia) how to open a tuna fish can, his lesion is not in the motor strip. It is closer to the origin of the thought to move, either in the



supramarginal gyrus or fibers "en passage" toward Broca's area. All of those axons that are activated by a thought which ultimately initiates movement are, in my opinion, part of the motor system.

### DISCONNECTIONS

Nearly every relative of a dysphasic patient will say or think: "She knows what she wants to say but can't find the words." The speech center has access to a particular pattern of local neurons to be fired — a memory — when the face of a familiar family member causes a distinctive visual signal to be sent from the occipital cortex forward. If the speech center (Broca's area) is disconnected from the angular gyrus, the patient cannot say Uncle Frank's name but could choose him visually from a group. If the disconnection is in the corpus callosum, the patient may be able to identify a friend or object with the right hand but not be able to transfer this information to the opposite hand. In such cases the right hemisphere is unconscious — if consciousness requires a verbal response. Disconnection of the left occipital cortex, and adjacent fibers of the splenium, causes alexia with preserved ability to write. Disconnection of Wernicke's area in the superior temporal gyrus isolates primary auditory reception, causing word deafness in the presence of normal hearing and auditory reception. A large bundle of fibers, the arcuate fasciculus, circles the posterior Sylvian fissure carrying subcortical fibers connecting all of these language areas.

The human neonate may be the most common example of a split brain or disconnection preparation, with *perhaps* equal capabilities for language in each hemisphere. The soul must gradually shift to the left if it is equated with language. This has been proposed exactly by the Nobel laureate J. C. Eccles.<sup>16,17</sup>

As the corpus callosum and anterior commissure become available in the first two years of life, the left hemisphere begins to ask (?) more questions of the exploring right hand. In agenesis of the corpus callosum, a chronically split brain, is the soul substance divided or is it doubled? (Since certain religious

sects only have room for a finite number of souls in heaven, would such a half-souled person have better prospects?) Paradoxically the right hemisphere in the adult seems to do less; it is missed less when insulted and contains more "silent" regions. If there are unused or extra regions in the right hemisphere, language functions should easily be shifted to the right when the left hemisphere becomes unavailable. Milner suggests that the natural functions of the right hemisphere then become embarrassed.<sup>14</sup>

### THE BIG PLANUM TEMPORALIS

After hundreds of thousands of detailed autopsies over several centuries it became obvious only in the past 20 years that the left superior temporal cortex, buried within the Sylvian fissure, is usually larger than that on the right. This asymmetry results in a more horizontal groove in the inner table of the temporal bone on the left, an asymmetry which can even be seen in Neanderthal skulls and in certain other primates.<sup>18</sup> (If the soul is confined to the dominant hemisphere for handedness then we could predict its probable former location in people dead for 50,000 years!)

In right-handers language is more obviously disturbed when lesions involve the left hemisphere. Polyglots do not have grossly swollen gyri even though they speak and understand many languages.<sup>19</sup> Preliminary studies with CT hint that dyslexic patients may have lost this hemispheric asymmetry programmed into most of us at birth.<sup>20,21</sup> When a baseball player is switched to bat left-handed, does this alter available parietal space?

### ANATOMY OF CONSCIOUSNESS

Assume that consciousness requires an ability to think, or an ability to respond. Thinking is the lag time between incoming stimuli and the initiation of a response and could be applied to the synaptic delays in a three-neuron system. The degree of consciousness in an organism seems to be a function of neuronal number and connectivity. (Eccles suggests that one quality of consciousness — awareness of ex-

istence — was obviously present in any prehistoric group that buried their dead.<sup>22</sup>) Is there an awareness separate from thinking? There is new evidence that certain brain regions in healthy humans show increased metabolism at the time certain thoughts are initiated, for instance, the thought to move a hand. Scalp-recorded brain waves give a few hints about this relationship, but blood flow measured by xenon confirms our presumptions that localized neuronal activity causes localized increases in blood flow.<sup>23</sup> (This *same* increase is seen in non-human animals.) Thoughts seem to be intimately related to neuronal health and activity.

The most popular gradations of consciousness for use at the bedside are based on a rostral-caudal progression from cortex to medulla. There are reliable pupillary, labyrinthine and respiratory signs to correlate with deterioration in each section. There is no special membrane potential or circuitry precisely related to consciousness, but no one disputes the observation that consciousness ebbs as impairment moves caudally through the brain stem. "Locked-in" patients — those with severe transections in the rostral pons or midbrain — demonstrate that the degree of consciousness sustained by the intact medulla and caudal pons can only be rudimentary.<sup>24</sup>

### DUALITY OF CONSCIOUSNESS

Mind-brain dualists recognize an association between thoughts and consciousness and healthy brains, but are skeptical that thoughts can only be produced by neurophysiologic change. This is a reasonable attitude even though epileptic lesions commonly evoke stereotyped "forced thinking" in some patients, and cortical stimulation certainly may evoke complex memories. Unless the current worldly mood of political and social conservatism alters planned research, the dualists will face more and more data from human experiments — especially from centers doing stereotactic surgery — linking thoughts with regional electrophysiology. The monists (reductionists) feel that

thoughts are either directly produced by acknowledged neuronal events, or are dependent on configurations of large groups of neurons, in some way transcending the physiologic — just as neurophysiology transcends the non-Newtonian world of the subatomic particles.<sup>25</sup> The dualists, who have dominated such discussions for thousands of years, do not explain why thoughts stop when brain function stops. If the soul is to be equated with thoughts and mind then these same statements also apply to souls. There are reproducible experiments — experiments where particular information seems to be available before electrical recording has shown signs of an arrival. Such experiments are used to justify the need for a “non-physical supervisory system.”<sup>26</sup> MacKay suggests that there are two levels of determination, to be distinguished as would a communication engineer, with an *energetic* level based entirely on physical causality and an *informational* or thinking level. The informational, thinking, or cognitive level is also *embodied* somewhere inside the brain, making MacKay a kind of monistic dualist.

### THE FRONTAL LOBES ARE MOST HUMAN

The large areas of eugranular frontal cortex kindle the speculation that we may yet find a neurologic Rosetta stone that will show us what kind of experimental concepts are needed to clarify brain-mind controversies. Although frontal lobes are well-developed in all of our readers the essence of humanness is not likely to be frontal.<sup>27</sup> Frontal lobe surgery theoretically makes schizophrenics more like human beings but not soul-less.

### HYPOTHALAMIC NUCLEI?

This may be the strangest important region in the brain and may yet hide some metaphysical surprise. Nevertheless, many of its functions are now reproducible by injectable extracts, e.g., pitressin, thyrotropin, so that a highly civilized life is still possible with severe hypothalamic and pituitary damage.

In summary:

1. The soul is a multiracial, time-

honored, enigmatic concept related to worthiness and applied, with rare exceptions, only to human beings. Souls are supposed to be present in nearly all healthy human beings, and in no animals.

2. In demented, psychotic, “locked-in,” demyelinated, and dead (“permanently idle”) people, the soul *may* be present depending on the current teachings of the religion involved.

3. All aspects of the patient’s soul, e.g., existence, presence and nearness, are specified by the patient’s theology. There is *no* scientific evidence to support the idea that an inactive deteriorating human brain maintains a special substance for a religion-specific length of time. The exact moment of death is no longer critically important at least to Western theologians.

4. There is no obvious “silent” brain region which, when extirpated, leaves a soul-less specimen in left-handers or right-handers.

5. Collections from the accelerating varieties of neurologic research suggest that most brain regions have dedicated functions. There are no unsampled neurologic kernels of mysterious texture. So-called association areas contain familiar-looking neurons, ubiquitous transmitters, and stereotyped myelin fractions.

6. There is no remaining region of the modern brain comparable to the pristine glob which puzzled thoughtful people from the 18th century back to the dawn of metaphysics.

7. Souls have been associated with language communication and consciousness, but there are no scientific reports describing patients who were declared soul-less prior to death. Further, a sincere but premature declaration of death would in no way jeopardize the soul — in the majority of Americans and Carolinians who practice the most popular religions.

8. There is excellent evidence suggesting that the mind is inseparable from neuron activity and from consciousness. Most scientists believe that the mind can be entirely explained by brain activity, but there are still some outspoken,

highly respected dualists. There is, however, no scientific evidence to correlate mind and soul; such correlations are only philosophic and theologic.

9. From a clinical viewpoint the management of a moribund patient should depend upon repeated evaluations of consciousness and communication, and upon the local medical and legal criteria for determining death. (“Death with dignity” laws understandably avoid definitions of human beings and do not use the word *soul*. North Carolina legislators thought the strange word *sapient* was best to describe residual qualities worthy of continued desperation treatment.)

10. This viewpoint should allow North Carolina physicians with any religious background to treat consenting members of any religious faith without guidance from the Health System Agencies or other regulators.

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## SPECIAL ARTICLE

# Joint Patient Care: Which Physician(s) Should Be Paid — And For What?

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**ABSTRACT** The North Carolina Society of Internal Medicine and Prudential-North Carolina Medicare have agreed on common guidelines for justified patient care when two physicians are seeing a hospitalized patient at the same time. Physician and third-party-payer administration of this sometimes difficult area of medical payment will, hopefully, be improved by use of these guidelines.

### INTRODUCTION

**W**HEN two (or more) physicians care for a hospitalized patient at the same time, payment by third parties is often a problem.

As medical care has become more complex, with more primary physicians, more specialists and more subspecialists, patient care responsibility and what justifies reasonable and necessary physician care become more difficult to define.

All those involved — physicians, third-party carriers, and patients — are interested in payment for medical care but view the care from their own perspectives. Physicians generally assume that whatever medical care they give is indicated and

should be covered by insurance. However, when two or more physicians are caring for a patient jointly, too much or too little care can be given. At times, basic patient responsibility is ill defined and communication among physicians is inadequate.

Third-party payers pay only those bills which are justified and documented and are not for duplicated services. When they receive multiple physicians' bills they frequently have difficulty in knowing if the bill, as well as the amount, is justified. Medicare in North Carolina receives approximately 40 claims a day in which there is a problem in concurrent care. The charts of 5%-10% of all patient discharges from some hospitals are obtained by third parties to check on the need for the billed care. Lack of documentation and poor legibility of notations complicate the process. These result in delayed insurance payments and increased insurance costs.

Patients are frequently the real financial losers. They are confused, and occasionally angered, by the lack of payment by third parties of what they thought was indicated medical care (and therefore covered by insurance). Often they have little or poor understanding of the real

terms of their insurance coverage.

In 1970 the North Carolina Medical Society adopted a brief policy statement on concurrent care:

- 1) The primary attending physician is the one who admits, attends and discharges the patient. He remains the primary physician until or unless care is transferred to another physician and this transfer is documented by written order on the chart.
- 2) The consultant should be compensated generally on the basis of consultation services in cases involving nonsurgical care when the scope of his services falls within the scope of services usually rendered by the primary physician.
- 3) The committee recognizes that complex or unusual problems even within the scope of such similar services may entitle the consultant to additional and/or unusual payment.

This statement is adequate for many situations but does not address many of the complex problems that frequently occur in current medical practice.

Recently the North Carolina Society of Internal Medicine has been working with Prudential, carrier for

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Medicare in North Carolina, in an effort to better define "reasonable charges" when two or more physicians see a patient at the same time. The views of the society's Executive Committee and those of Prudential are similar.

Current terminology is confusing and at times inadequate. "Consultation" traditionally implies a single evaluation with recommendations. "Concurrent Care" implies continuing care of a patient by two or more physicians. Frequently the care given is both "consultative" and "concurrent." Third-party payers frequently receive claims for consultative and concurrent care on the same form. Therefore, for simplification, when two or more physicians render care to a patient at the same time, the term "Joint Care" may be better.

## GUIDELINES

In order to improve physician understanding and handling of the problems involved, as well as improving patient and physician reimbursement, the following guidelines for joint medical care are suggested and three general areas defined:

- I. Separate Medical Conditions — Patients who are being seen by more than one physician, each physician caring for a separate medical problem.
- II. Single Medical Condition — Patients being seen by more than one physician for the same medical problem.
- III. Primary Responsibility for patient care.

Examples of what are included and excluded in reasonable and justified medical care are listed for further clarification.

### I. Separate Medical Conditions

If a patient has a condition requiring care by another physician(s) at the same time, the physician(s) should not be of the same or similar specialty and the patient should require treatment for a condition unique to and within the scope or skills of each physician.

#### Included:

1. Documentation on the pa-

tient's chart of the need for each physician's unique care by means of a consult note and pertinent progress notes.

2. Intermittent observations by the primary care physician of his patient being treated by another physician for a single, more complex illness (i.e. cardiologist treating patient with infarction and shock) but limited to an occasional visit (possibly one per week).
3. Intermittent observation by a second physician of a patient who has an additionally potentially threatening but *stable* diagnosis (i.e. emphysema, diabetes). Visits should be limited (possibly two per week).
4. Intermittent observation by a second physician of a patient being treated by another physician who has another "active" diagnosis or therapy requiring *periodic* treatment (i.e. congestive heart failure, anticoagulant treatment). Visits should be periodic (possibly three per week).
5. If an *acute* incident (i.e. urinary tract infection, pulmonary embolus) occurs during a hospitalization requiring a second physician or unique expertise, he may see the patient on a daily basis (possibly seven consecutive days).
6. If the limits set in statements 2, 3, 4 and 5 above, are exceeded, documentation justifying need for physician's continued care should be made.

#### Excluded:

1. Social calls not representing significant care (i.e. primary physician visiting patient with routine T & A, hernia repair, etc.).
2. Patient care which has not been documented or justified.
3. Patient care which exceeds minimum standards and is not documented by special reports (See "Included 1-6" above.)
4. Duplication of care by physicians of the same specialty or skill.

## II. Single Medical Condition

If a patient is critically ill or has a therapeutic or diagnostic problem, consultative care and follow-up by one or more physicians may be indicated.

#### Included:

1. Documentation by written consultation note and subsequent progress notes indicating the need for joint care.
2. Care by two different specialists for the same diagnosis or procedure when both specialists' unique skills are indicated (i.e. cardiologist and surgeon for patient with coronary artery disease).
3. Second opinion consultation prior to a major surgical procedure of equivocal surgical indication.

#### Excluded:

1. Consultation for insignificant medical problems (i.e. pre-operative medical consult on "all" patients having major surgery who have no evidence of significant medical disease).
2. Consultation to provide coverage (i.e. primary physician to be unavailable).
3. Consultation without adequate chart documentation.
4. Consultation for "interesting medical finding" but without potential benefit to patient's care.

## III. Primary Responsibility

One physician should be responsible for the overall care of a patient. Initially this should be the admitting physician. If this primary responsibility is changed, a dated transfer order indicating the physician to whom the patient is transferred should be written on the chart.

#### Included:

1. A primary physician admitting a patient with a specific problem (i.e. abdominal pain, chest pain) with subsequent need of a specialist (i.e. surgeon, cardiologist). The patient should be transferred to the specialist at the time the specialist assumes responsibility for the

patient (i.e. surgery, myocardial infarction with shock).

2. A clear statement on each patient's chart as to which physician has primary responsibility if it is someone other than the admitting physician. Even though specialists are caring for the patient, one specialist should be designated for primary responsibility.

#### Excluded:

1. A primary physician admitting his patient for *routine* surgery (i.e. hernia repair, breast bi-

opsy), performing a history and physical, and making daily visits in addition to the surgeon giving *his* usual surgical care, both pre-operatively and postoperatively. (Here the surgeon should assume all responsibility.)

2. Two physicians of the same skill or specialty, both assuming primary responsibility for the same patient problem or diagnosis.

#### CONCLUSION

Joint physician care of hospital-

ized patients will continue to be a problem in certain situations. However, by better communication and application of these concepts the problems can be minimized. Documentation of need for care, the care given, and establishment of primary responsibility for care are all important.

If these guidelines are followed with all patient care, the physicians' pay will be more equitable, the insurance costs will be less and payment quicker, and the patient will be better cared for, and perhaps even less frustrated financially.

#### Aortic Stenosis

*Strong action of the left ventricle; extremely loud and musical murmur at the extent of the arterial tree; the heart's action generally regular.* — I have witnessed two or three cases of this combination. The phenomena arise from extensive ossific disease of the aortic opening, which is rendered not only rigid, but singularly irregular, from the deposit of great quantities of earthly matter in the form of intersecting and irregular plates, stretching downwards into the ventricle, as well as into the aorta, for an inch above the sinuses. In one of these cases the appearance of the opening might be aptly compared to that of the mouth of a shark in miniature: all traces of the valves had disappeared.

In these cases every superficial artery emitted a most distinct musical tone at each pulsation: the radial artery at the wrist, the palmar arteries, the ramifications of the temporal arteries, the anterior tibial, and the branches on the dorsum of the foot, all exhibit the same phenomenon. In two cases the sounds were distinctly audible to the patients, who were conscious of their existence at almost every point of the body. With one patient the perception of these sounds was the principal cause of his suffering, for his general health long continued excellent, and the heart's action was but little excited. This gentleman once observed to me, *that his entire body was one humming-top*. The loudness of the tone varied with the force of the heart. When I first saw him the sounds were audible at the distance of at least three feet; but when the force of the heart had been reduced by local treatment, the use of sedatives, and by removing all causes of bodily and mental excitement, the loudness of the sound at the aortic orifice was so much reduced as to render it inaudible, unless by applying the ear.

.....  
Dissection in this case showed but little disease in the aorta from about two inches above the orifice: the descending aorta and the arch were healthy; the left ventricle was hypertrophied and dilated; the general arterial system exhibited no disease.

Under such circumstances we may safely make the diagnosis of extensive and irregular ossification of the aortic orifice, with contraction, if the pulse be small and hard and without contraction, if its ordinary volume be preserved. — William Stokes, 1854.

# Toxic Encounters of the Dangerous Kind

## Hydrocarbon Ingestion

Ingestion of petroleum distillates by preschool children is extremely common and according to one recent survey is the second most common cause of hospital admission for accidental childhood poisoning (aspirin is first).

Three classes of hydrocarbons are involved in childhood poisoning: (1) aromatic hydrocarbons, e.g., benzene, xylene, toluene; (2) terpenes, e.g., turpentine, pine oil products; and (3) aliphatic hydrocarbons, e.g., gasoline, kerosene, lighter fluid, solvents, thinners and furniture polish containing mineral seal oil. Mineral seal oil, found in such oil furniture polishes as Old English, is now the most commonly ingested hydrocarbon in preschool children (replacing kerosene) and is probably the most dangerous in its class. This discussion will be limited to aliphatic hydrocarbons.

The major organs affected by aliphatic hydrocarbons are the lungs, the gastrointestinal tract and the central nervous system. We are primarily concerned with hydrocarbon pneumonia because it is the one practitioners confront most commonly and because it is the major cause of death from this poisoning. Hydrocarbon pneumonia is related to the act of swallowing the petroleum distillates, which, because of their low viscosity "creep" over the pharyngeal and glottic surfaces to enter the tracheobronchial tree where they probably interfere with pulmonary surfactant and produce hydrocarbon pneumonitis. The CNS effects are probably secondary to the chemical pneumonia and hypoxia.

Clinical features include gasping, choking, coughing, grunting (due to surfactant loss?), tachypnea, fever and leukocytosis (the latter two features are not related to infection but to a foreign body reaction). The odor of the hydrocarbon on the child's breath and/or vom-

itus is an aid to diagnosis. The most common CNS finding is lethargy; stupor, coma and seizures are relatively rare.

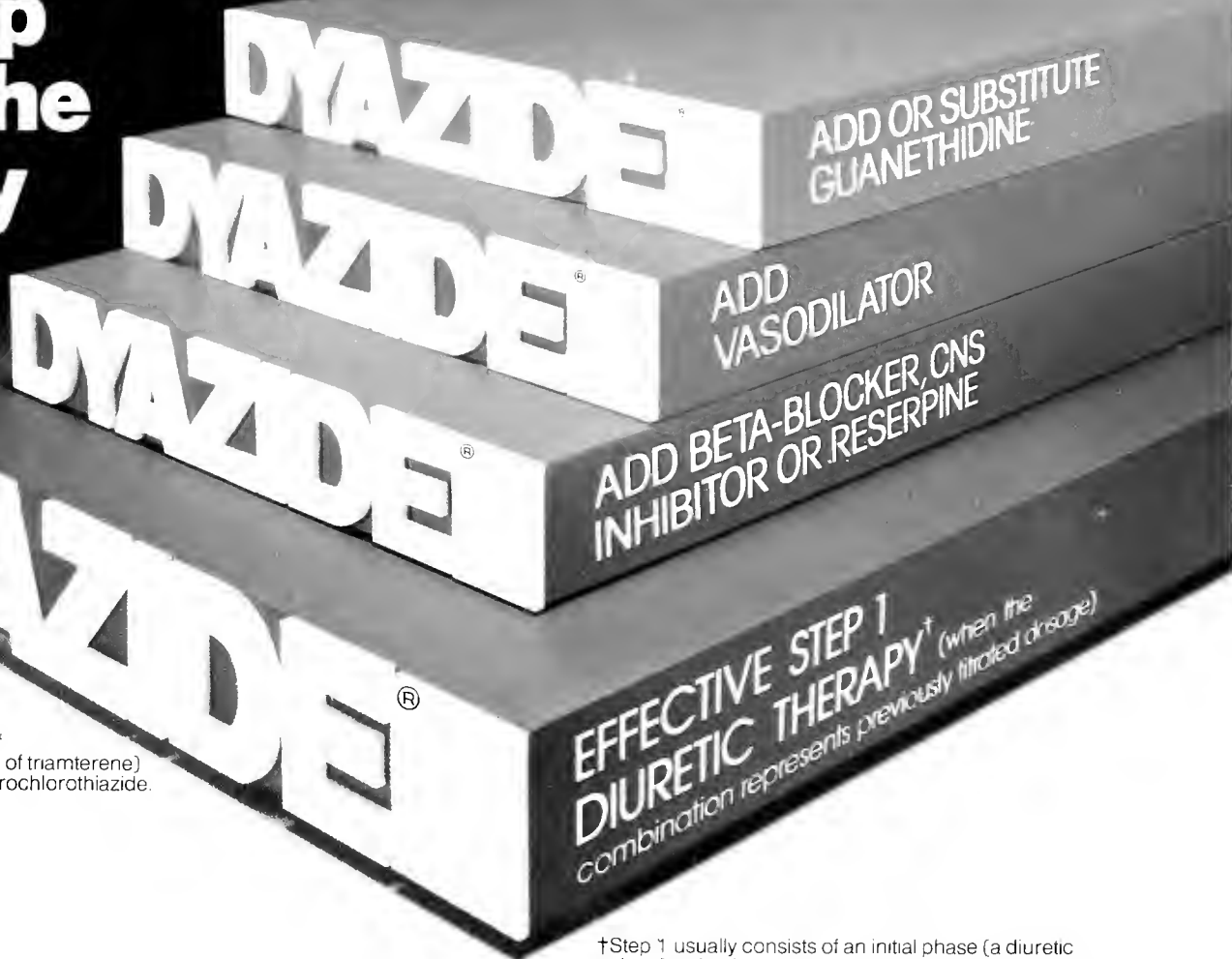
The management of a patient who has ingested a hydrocarbon remains controversial. *Gastric emptying is not advised unless the patient swallowed:* (1) a halogenated hydrocarbon, (2) an aromatic hydrocarbon, (3) terpenes, (4) any hydrocarbon containing camphor, insecticides, nitrobenzene, heavy metals, (5) an aliphatic hydrocarbon in a quantity greater than 2 ml/kg or over 100 ml in a preschool child. Most children do not swallow more than 30 ml; remember each swallow of any liquid equals 0.21 ml/kg — about 5 ml in a preschool child. If gastric emptying is required after a hydrocarbon, ipecac-induced emesis is considered safer than lavage. A 15-30 gram activated charcoal slurry should follow emesis and then a cathartic such as magnesium or sodium sulfate 250 mg/kg per dose. Emesis should not be induced if the patient is stuporous, comatose, convulsing or has a suppressed gag reflex or when mineral seal oil has been ingested. *Very few* of the preschool children seen as emergencies after having swallowed a common aliphatic hydrocarbon will require gastric emptying.

Changes in the lungs detectable by x-ray may occur within 20 minutes but usually are not visible for 6-8 hours. Antibiotics are not recommended for prophylaxis of chemical pneumonitis. Steroids are probably of no value.

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In Hypertension\* ...When You Need to Conserve K<sup>+</sup>

Every  
Step  
of the  
Way



Each capsule contains 50 mg. of furosemide (brand of furosemide) and 25 mg. of hydrochlorothiazide.

†Step 1 usually consists of an initial phase (a diuretic alone), a titration phase (dosage adjustment and/or addition of a K<sup>+</sup> supplement or K<sup>+</sup>-sparing agent), and a maintenance phase (a diuretic alone or in combination with a K<sup>+</sup> supplement or K<sup>+</sup>-sparing agent).

Serum K<sup>+</sup> and BUN should be checked periodically (see Warnings).

For more prescribing, see complete prescribing information in SK&F Co. literature or PDR. The following is a brief summary.

#### \*WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

**Contraindications:** Further use in anuria, progressive renal hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

**Warnings:** Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with diastolic irregularities. It is more likely in the severely ill, with renal volume less than one liter/day, the elderly and diabetics. In suspected or confirmed renal insufficiency. Periodically, serum K<sup>+</sup> levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K<sup>+</sup> intake. Associated widened QRS complex or arrhythmia requires prompt additional therapy. Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and tri-

amterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

**Precautions:** Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K<sup>+</sup> frequently; both can cause K<sup>+</sup> retention and elevated serum K<sup>+</sup>. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other, serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia, although uncommon, has been reported. Corrective measures should be instituted

cautiously and serum potassium levels determined. Discontinue corrective measures and Dyazide should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. Dyazide should be withdrawn before conducting tests for parathyroid function.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

**Adverse Reactions:** Muscle cramps, weakness, dizziness, headache, dry mouth, anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions, nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and rarely allergic pneumonitis have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis and of impotence have been reported with the use of 'Dyazide', although a causal relationship has not been established.

**Supplied:** Bottles of 1000 capsules. Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

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(aspirin)





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A *Motrin* 400 mg dose relieved postsurgical dental pain as effectively as a combination of 650 mg aspirin and 60 mg codeine (two aspirin-with-codeine No. 3 tablets) in a study of 129 patients.

In this double-blind, placebo-controlled, randomized study, no statistically significant difference in relief of pain was noted at 1, 2, and 4 hours between the *Motrin* and aspirin-with-codeine groups...

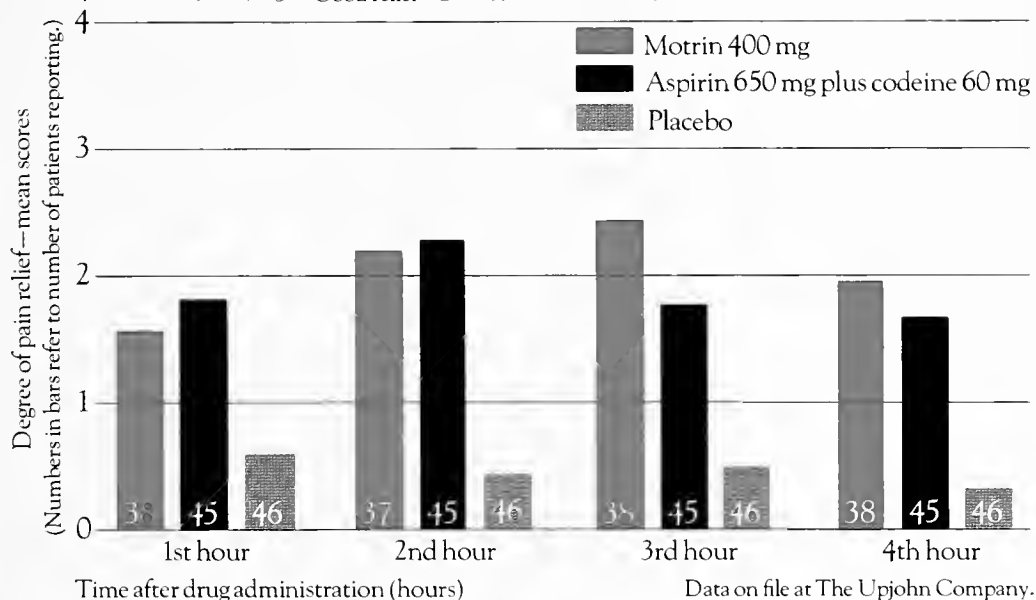
with *Motrin* being significantly more effective ( $p = 0.03$ ) at the three-hour interval.

Active treatment was significantly more effective ( $p < 0.0001$ ) than placebo at all time intervals.

## Comparison of pain relief

### Motrin vs aspirin-codeine combination

4 = Excellent relief 3 = Good relief 2 = Fair relief 1 = Poor relief 0 = No relief



One tablet q4-6h prn

For relief of mild to moderate pain:

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- Not a narcotic • Not addictive • Not habit forming • Nonscheduled
- Acts peripherally • Relieves pain rapidly • Relieves inflammation • Indicated in acute and chronic pain • Well tolerated (The most common side effect with *Motrin* is mild gastrointestinal disturbance.)

Please turn the page for a brief summary of prescribing information.

**Upjohn**

**Motrin®** (ibuprofen)

## now proved an effective analgesic for mild to moderate pain

**Motrin® Tablets** (ibuprofen, Upjohn)

**Indications and Usage:** Relief of mild to moderate pain.

Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in long-term management. Safety and efficacy have not been established in Functional Class IV rheumatoid arthritis.

**Contraindications:** Individuals hypersensitive to it, or with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory agents (see WARNINGS).

**Warnings:** Anaphylactoid reactions have occurred in patients with aspirin hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Ulceration, perforation, and bleeding may end fatally. An association has not been established. Motrin should be given under close supervision to patients with a history of upper gastrointestinal tract disease, only after consulting ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be tried. If Motrin must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

**Precautions:** Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue Motrin and the patient should have an ophthalmologic examination, including central visual fields.

Fluid retention and edema have been associated with Motrin; use with caution in patients with a history of cardiac decompensation.

Motrin can inhibit platelet aggregation and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy should have therapy tapered slowly when Motrin is added.

**Drug interactions.** *Aspirin:* Used concomitantly may decrease Motrin blood levels.

*Coumarin:* Bleeding has been reported in patients taking Motrin and coumarin.

**Pregnancy and nursing mothers:** Motrin should not be taken during pregnancy nor by nursing mothers.

### Adverse Reactions

#### Incidence greater than 1%

**Gastrointestinal:** The most frequent type of adverse reaction occurring with Motrin is gastrointestinal (4% to 16%). This includes nausea,\* epigastric pain,\* heartburn,\* diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the GI tract (bloating and flatulence). **Central Nervous System:** Dizziness,\* headache, nervousness. **Dermatologic:** Rash\* (including maculopapular type), pruritus. **Special Senses:** Tinnitus. **Metabolic:** Decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

\*Incidence 3% to 9%.

#### Incidence less than 1 in 100

**Gastrointestinal:** Upper GI ulcer with bleeding and/or perforation, hemorrhage, melena. **Central Nervous System:** Depression, insomnia. **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme. **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure. **Special Senses:** Amblyopia (see PRECAUTIONS). **Hematologic:** Leukopenia, decreased hemoglobin and hematocrit.

#### Causal relationship unknown

**Gastrointestinal:** Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities. **Dermatologic:** Alopecia, Stevens-Johnson syndrome. **Special Senses:** Conjunctivitis, diplopia, optic neuritis. **Hematologic:** Hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** Fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** Gynecomastia, hypoglycemia. **Cardiovascular:** Arrhythmias. **Renal:** Decreased creatinine clearance, polyuria, azotemia.

**Overdosage:** In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine, so alkaline diuresis may be beneficial.

**Dosage and Administration:** Rheumatoid arthritis and osteoarthritis, including flares of chronic disease: Suggested dosage is 300, 400, or 600 mg t.i.d. or q.i.d. Mild to moderate pain: 400 mg every 4 to 6 hours as necessary for relief of pain.

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A message from the Crime Prevention Coalition,  
the publication and The A.C. Council.

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## NORTH CAROLINA MEDICAL CURIOSITIES

### The Two-Headed Girl

Chang and Eng, the Siamese twins, were already well known figures in show business when Millie and Christine were born in Columbus County, North Carolina, on July 11, 1851. Like their parents, they were slaves belonging to a man named McCoy. Their mother, a woman of 32, had a large pelvis. The twins reportedly weighed 17 lbs., but the birth was not a difficult one. The little girls were joined together at the base of the spine so that the buttocks of one pressed against those of the other. They possessed a common anus and a common vulva. The bodies were not exactly parallel — one inclined slightly to the left and the other to the right. Their hearts were on opposite sides of their bodies and below the point of juncture they had a common nervous system. Otherwise, they were complete, symmetrical, separate individuals — each with two arms and two legs. Shortly after they were born, they and their parents were sold, and after several other transfers, they were separated from their family. They were eventually bought by J. P. Smith, who reportedly paid \$30,000 for them since their value as a natural curiosity was recognized. He also bought the rest of the family and reunited them.

He took the young girls on a tour of the Gulf states and advertised them as the "North Carolina Twins" or "The Double-Headed Girl." In New Orleans, they were kidnapped but after several months Smith found the children in England and reunited them with their mother. From Smith's wife, their "white ma," they learned to read and write as well as to sing and dance. The children were becoming full-fledged performers.

During the Civil War, Smith died, leaving his widow in strained circumstances. Legally, the girls were free to go on their own way, but they felt a deep loyalty to the Smith family and with Mrs. Smith as their guardian they returned to the exhibition circuit. They had good voices and were sometimes billed as the "Two-Headed Nightingale." One was a soprano and the other a contralto. They sang popular songs, accompanying themselves on guitars. They spent many years in P. T. Barnum's Museum, as well as taking trips to Europe in 1873 and 1885. They were well received by Queen Victoria.

In the early 1900s, Millie and Christine retired to Columbus County, where they lived with their parents and 14 brothers and sisters. They moved into a 10-room house, which they filled with treasures and souvenirs from the theater. Many visitors called on them. The twins had good hearts and gained a wide reputation for their charitable acts.

In 1909 their home burned and they moved into a six-room cottage. In October of 1912 Millie died of

tuberculosis. Christine knew at once what had happened and she died 17 hours later. The sisters were buried in a churchyard not far away, with the engraving on their tombstone: "A soul with two thoughts, two hearts that beat as one."

E. WAYNE MASSEY, M.D.  
Assistant Professor  
Division of Neurology  
Duke University Medical Center  
Durham, N.C. 27710

## PHOTOGRAPHIC REVIEW

OF

## MEDICINE AND SURGERY.



*Double headed Girl.*

*Entered according to Act of Congress in the year 1891 by Missess Josephine Smith in the office of the Librarian of Congress at Washington.*

PLATE NO. 1

### THE CAROLINA TWINS

Courtesy of Duke University History of Medicine Library.  
Millie and Christine

# Editorials

## ABOUT WOMEN AND WOMEN IN MEDICINE

The American Psychiatric Association of late has been muchly concerned about where it will hold its annual meetings. One wing of that body, holding that the passage of the Equal Rights Amendment would be psychotherapeutic for the body politic, wants to deny states whose legislators have not supported ERA the privilege of hosting them, while another is not so sure. Perhaps such states really won't realize they are being punished if the association meets elsewhere.

There is much to be said for both sides in the battle between men and women, but the NORTH CAROLINA MEDICAL JOURNAL is certainly not the place to say it all. A few comments may be in order, however, particularly when we live in a bastion of the old confederacy and a stronghold of the purest flowers of Southern womanhood. A number of Southern belles had been reported to be opposed to ERA because "we will lose so many of our hard earned gains." They, of course, must be aware that the law, though color-blind, is in some places and about some matters not sex blind and they have probably taken pains to establish and maintain equality in their own households.

Honest ministers have been aware for years, and have at times been willing to confess, that the ladies run the church. But Kinder, Küche and Kirche are really not enough anymore. Women live longer, are better at detail, are more even-tempered, know more about raising children and even own more stock in this country than men. Little wonder then that the ladies have moved into medicine. It remains to be seen what criteria they will establish about meeting places after they have entered our professional societies in large numbers. About 25% of applicants for admission to medical school these days are female and so are the students in our state's four medical schools.

The process of liberation of women has been biological, legislative and economic. As infant mortality drops, women no longer worn out by child-bearing live longer. It used to be said that a man had to have three wives, one to birth his children, the second to raise them and the third to bury him. If our times seem grim with atoms and deficits, those days must have been much worse. In a few places on our earth society has had a few moments of relief from biological necessity so that both men and women have been afforded opportunities unimaginable in ancient days. All too often this freedom has not been appreciated and the bright promise of new discovery dimmed by fear, malice and forgetfulness. But women

remember a lot of things that men should but don't. And their movement into medicine should be a blessing to us all.

J.H.F.

## WHERE IS THE HORN OF THE UNICORN?

During World War II the allies assured themselves and the citizens of occupied nations that with peace the four freedoms would be restored and maintained. Now nearly four decades later we are far from establishing those four freedoms as the citizens of Poland have so dramatically demonstrated. But we have managed to establish, at least in the English speaking world, a fifth freedom, the liberty to treat ourselves for anything with anything in any way we desire. Perhaps this phenomenon has always existed unknown to physicians. Or perhaps the technologic and therapeutic advances of modern times have brought such a depersonalization that some people have sought medical alternatives in ancient remedies and the even more ancient metaphors of magic. We have seen almost cultic devotion to Laetrile, a mystic belief in natural vitamins and a movement toward a holistic therapy which shares some traits with a Children's Crusade directed by a cadre of Peter Pans. The late Euell Gibbons told us of the almost lost therapeutic value of a whole host of denizens of the woods, fields and streams and extolled Grape Nuts as a remarkably efficacious remedy for aberrations of the appetite. So we seem to be returning to the polypharmacy abandoned by physicians and an anathema to the FDA and may well find herbalists seeking payment through Medicare and Medicaid if this sort of thing continues.

Take mistletoe, parasitic on the branches of trees in the South, Middle Atlantic and Pacific Coast, and hung at Christmas to encourage freer communication between the sexes. Or take mistletoe if you can find it. Most of it is now plastic, and like plastic available the year round along with non-dairy creamer, synthetic sweetener and decaffeinated coffee. It is less easily available because herbalists are selling preparations containing it. It was certainly held in high respect in prehistoric times, particularly by the Druids, those mysterious Britons said to be responsible for Stonehenge, who thought it effective as an antidote for poisons, as an aid to fertility and as an aphrodisiac. Presumably its role at Christmas and at Christmas parties in particular has something to do with the last.

In England, land of the Druids, a drug containing mistletoe extract was listed as recently as 1978 in a

formulary and Harvey and Colin-Jones<sup>1</sup> have recently reported a middle-aged housewife who exercised her fifth freedom on at least two occasions by taking an herbal preparation containing motherwort, kelp (much beloved for its iodine), wild lettuce, skullcap and mistletoe. For her trouble she suffered bouts of mistletoe hepatitis attributed to toxins contained in the plant.

It is ironic that these liberty-loving experimentalists should come out from under rocks in such numbers when other consumers are demanding more stringent regulation of medical practice and such prolonged screening of drugs that the Food and Drug Administration appears to look quite unkindly on new prepa-

rations. While the FDA dawdles, holistic practitioners and pursuers of alternative systems of healing offer such remedies as "false unicorn," and red raspberry leaf tea for problems of health.<sup>2</sup> If memory serves, the unicorn was a marvelous medieval beast which could be caught only by a young virgin and its horn was said to be singularly effective against poisons. Unfortunately, the unicorn has not survived the scientific revolution and no horns are available to protect the new experimentalists.

J.H.F.

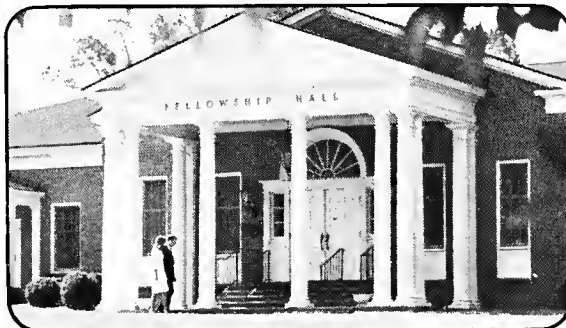
#### References

1. Harvey J. Colin-Jones DG: Mistletoe hepatitis. Br Med J 282:186-187, 1981.
2. Henry S: Red raspberry leaf medicine? It's all part of "natural" healing. Can Med Assoc J 120:728-730, 1979.

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# Tips on Submitting Health Insurance Claims

PRACTICE  
MANAGEMENT

BY: Department of Practice Management  
Division of Medical Practice  
American Medical Association

Whether or not you like it, the completion of claim forms is a part of the everyday practice of medicine. When a claim form is properly completed, it usually means that you or your patients will get paid quickly. Claims that aren't paid or that are paid slowly aren't always the fault of the insurance carriers — surprising as that may seem.

Here are four tips to assist you in your relationship with the health insurance industry.

## 1. MAKE THEM READABLE:

Frequently, claims are submitted with illegible information. You and your medical assistant may be familiar with each other's handwriting, but, a claims examiner who reviews many different physicians' handwriting may have difficulty deciphering the message. If that's the case, several things can happen. The examiner may contact your office by phone or mail asking for an explanation or clarification, which causes an unnecessary interruption. Or, the claims examiner may make an assumption about what was reported, which may result in under- or over-payment, which creates a bookkeeping problem. The solution? Submit a legible claim the first time, preferably typewritten.

## 2. LIST SYMPTOMS, AS WELL AS A

**DIAGNOSIS:** Without a complete diagnosis, don't expect to be paid. And be sure to include a description of the relevant symptoms. Insurance carriers base their payments on medical

necessity, and there tends to be correlation between the services reported and diagnoses. But in some cases your final diagnosis may not be related to the service or services you performed. By reporting the symptoms, as well as the patient's initial complaint along with the final diagnosis, the claims examiner can equate the two with the service. When everything fits together, you get paid.

**3. TALK THE SAME LANGUAGE:** This means you and the carrier must use the same terminology. There are several medical terminologies in use: AMA's CPT, Blue Shield, and California RVS to name a few. You should be aware of, and use the terminology most often used in your area. When you and the carriers speak the same language, claims will be paid quickly and accurately.

## 4. BE SURE YOUR REPORT IS

**COMPLETE:** Report each service performed separately with your individual charge for each.

Here's an example: if you gave a patient 10 days of in-hospital medical care, break your services down to show, for instance, that one was an extended visit; four were intermediate visits, and five visits were brief visits. Proper reporting using AMA's CPT would be:

10/1/77	90270 One (1) extended visit	@ \$_____ — total \$_____
10/2/77 thru	90260 Four (4) intermediate visits	
10/5/77	@ \$_____ — total \$_____	
10/6/77 thru	90240 Five (5) brief visits	
10/10/77	@ \$_____ — total \$_____	

A uniform claim form is required in North Carolina for Medicaid claims identified as HCFA-1500 which is the AMA-approved form and is also acceptable for Medicare, CHAMPUS and many other health insurers including Blue Cross & Blue Shield. A sample of the North Carolina form is depicted below.

Vol. 42, No. 5

## Correspondence

### AMBULATORY SURGERY

To the Editor:

Your special article, "Ambulatory Surgery in North Carolina, 1980," was of particular interest to me. I am impressed with the content and conclusions of this well written paper and pleased to learn that ambulatory surgery has "now been practiced in North Carolina and in many areas of the nation for at least a decade."

The *Journal of the American Medical Association* of September 5, 1980, states that the free standing surgery concept was pioneered 10 years ago. You will be interested to note that my first textbook, *Ambulatory Proctology*, was published by Harper-Hoeber in 1946, and the second edition, same publisher, appeared in 1952. The foreword to these texts was written by Beaumont S. Cornell, editor of the *American Journal of Digestive Disease*. He stated, in part, that

"the ambulatory treatment of *any* ailment, which traditionally required rest, is an American concept and should be carried out to its limits consistent with safety. In such attempts, good judgment and sound knowledge are shown by Dr. Cantor to be the chief factors in safety." I think that we will have to set the earliest pioneering, as it relates to my work, to have begun 40 years ago rather than 10. Being retired, I do not seek patients, but rather desire to set the record straight.

Alfred J. Cantor, M.D.  
Editor in Chief  
*American Journal of Proctology,*  
*Gastroenterology & Colon &*  
*Rectal Surgery*  
North Shore Towers 271-17V  
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# Bulletin Board

## WHAT? WHEN? WHERE? In Continuing Education

Please note: 1. The Continuing Medical Education Programs at Bowman Gray, Duke, East Carolina and UNC Schools of Medicine, Dorothea Dix and Burroughs Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or co-sponsored by these schools automatically qualify for AMA Category 1 credit toward the AMA's Physician Recognition Award, and for North Carolina Medical Society Category A credit. Where AAFP credit has been requested or obtained, this also is indicated.

2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information."

### May 13-14

Respiratory Care Symposium: Breath of Spring, 1981

Place: Bowman Gray School of Medicine

Fee: \$35

Credit: 9 Hours

For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine

### May 14-16

N.C. Chapter of American College of Surgeons

Place: Center for Continuing Education, Appalachian State

For Information: J. S. Mitchener, Jr., M.D., P.O. Box 1808, Lenoir, N.C. 28352

### May 15

"Pediatrics Day"

Place: Pitt County Memorial Hospital, Greenville

Fee: \$30

Credit: 5 hours; AMA Category 1; AAFP approval requested

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville

### May 22-24

10th Annual Pediatric Pulmonary Disease

Place: Duke University Medical Center

Fee: \$50

Credit: 12 hours

For Information: Alexander Spock, M.D., P.O. Box 2994, Duke University Medical Center, Durham, N.C. 27710

For Information (919) 774-6518

### June 3

"What's New in Cardiovascular Imaging — Echo, Nuclear & CAT?"

Place: Pitt County Memorial Hospital, Greenville

Fee: \$30

Credit: 6 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville, N.C. 27834

### July 27-August 1

"Diagnostic Radiology"

Place: Atlantic Beach

Fee: \$250/\$125

For Information: Donald R. Kirks, M.D., Box 3808, Duke University Medical Center, Durham 27710

## AUXILIARY TO THE NORTH CAROLINA MEDICAL SOCIETY

### BOOK REVIEWS

#### INTRODUCTION

Several county auxiliaries have organized interest groups for stimulation and personal growth of its members. Book study groups have developed as an excellent avenue for this endeavor. Members of one of these groups will review four books which they consider to be worthwhile reading for physicians and their families. Two reviews appear in this issue and two others will appear next month.

**Veatch, Robert M.: Case Studies in Medical Ethics. Cambridge, Massachusetts, Harvard University Press, 1977, 421 pages.**

Hemodialysis saves lives but may necessitate choosing recipients from a pool of applicants whose number exceeds available resources. Amniocentesis gives important information concerning the status of the fetus; knowledge that a congenital defect exists places a grave responsibility on the expectant parents and their physician. Legalization of abortion raises questions concerning the rights of the unborn and ultimately demands a definition of life itself. The terminally ill are confronted with a corollary question — when does life end? And who shall decide? In various types of medical encounters, the physician must decide whether to be the advocate for the patient, the patient's family, an organization that may employ the physician, or the legal system which makes laws that sometimes are contrary to his own values.

In the past decade many new challenges to medical decision-making have arisen. Medical ethics has emerged as a branch of "applied ethics" and offers the opportunity to analyze the value systems that shape health care choices. Using the context of medical cases, Robert M. Veatch, Ph.D., Professor of Ethics at the Kennedy Institute of Ethics, Georgetown University, has written "Case Studies in Medical Ethics," a book I highly recommend to practitioners, educators and medical families.

The fundamental premise of the book, according to Dr. Veatch, is that "every medical decision has a value component." No matter how trivial the problem

may seem, every medical encounter offers alternative actions on the part of the physician and the patient. The physician may or may not prescribe antibiotics for a sore throat; the patient may or may not comply with the recommended treatment. These decisions are based on an individual's own value system — what he determines is "right or wrong."

Dr. Veatch presents 112 cases (almost all of which are based on real experiences). Following each case presentation, the author comments on the possible alternative decisions and their ramifications. Sometimes the discussion is presented from an historical perspective, sometimes in a question format (with no answers supplied), sometimes in the framework of various schools of ethical thought. The reader is prompted to identify and examine his own values. The cases are presented concisely, giving enough information to make some judgments and yet not belaboring the reader with trivial details.

"Case Studies in Medical Ethics" can be a reference source in instances of specific dilemma. For the medical family, it will give insight into the difficult ethical decisions faced by physicians in everyday medical practice.

ANITA D. TAYLOR

**Camp, John: The Healer's Art: The Doctor Through History.** New York, New York, Taplinger Publishing Co., Inc., 1977, 180 pages.

The basic thesis of this book is that, through history, the structure of a particular culture has determined how it views those who take care of its sick. Camp takes a brief look at different eras in terms of medicine's advance and regressions. From ancient Greece, where the art of medicine achieved the status of a science, where disease was understood to be some bodily dysfunction and not the result of the gods' displeasure, and where ethics were first formally wedded to medicine — from such a time we soon arrive in the early Christian era, where disease was the fruit of sin and medicine the instrument of the devil. Camp does not, however, confine his interest to Western medicine, but also demonstrates how the fundamental Eastern concept of the Yin and the Yang determined how the Oriental physician dealt with his patients.

While taking the reader through these various periods of medicine the author stops along the way to recount some of the outlandish treatments of the past: tobacco-smoke enemas, rectal plugs for diarrhea, the lowly potato as an aphrodisiac, and salve being

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applied to the weapon that caused the wound instead of to the wound itself.

Camp pays particular attention to the varying status and compensation of the physician throughout time. For instance, in fourteenth century China private physicians of wealthy families were paid as long as the family was well but were required to work without pay during periods of illness. No better was the lot of the seventeenth century physician who was often not paid by the gentry and nobility for his lowly service. And yet in Islam one finds the physician exalted to fantastic heights and lavishly recompensed.

Though directed at those with an interest in history, this book contains so many excursions into the odd and remarkable that it becomes enjoyable for everyone.

JEAN COOPER

#### News Notes from the

### UNIVERSITY OF NORTH CAROLINA- CHAPEL HILL SCHOOL OF MEDICINE AND NORTH CAROLINA MEMORIAL HOSPITAL

Cancer prevention will be the focus of a new program in the schools of medicine and public health funded by a five-year \$201,120 grant awarded by the National Cancer Institute.

The schools will merge existing research and edu-

cation programs with clinical oncology programs to uncover information that will prevent adverse side-effects of treatment and improve the "quality of life" of the cancer patient.

"Prevention of adverse cancer outcomes from occupation, from failure to diagnose patients early, and from treatment is now a major concern of the National Cancer Institute," said Dr. Seth Rudnick, assistant professor of medicine and principal investigator of the grant.

Rudnick received special training in epidemiology at Yale University before coming to the University of North Carolina at Chapel Hill to accept a joint appointment in public health and medicine and to become a member of the Cancer Research Center.

"The grant will increase the awareness of preventive oncology in the clinical setting, serve to attract medical and public health students into careers in cancer prevention and serve as part of the foundation for future efforts to control cancer," Rudnick said.

Investigators will design research projects to investigate the occupational cancer risks of woodworkers in North Carolina's furniture factories and energy workers exposed to x-rays over long periods of time.

Some of the new and ongoing cancer prevention projects that will be developed over the next five years include:

- a study of patients with metastatic adenocarcinoma (a spreading glandular cancer) to try to determine the location of the original tumor;

- a study of the relationship of radiation therapy to the cause of a second cancer in cervical cancer patients;

- studies of the consequences of undertesting in the diagnostic evaluation of cancer patients and the benefits versus cost of follow-up tests in cancer patients.

Program researchers will utilize the Cancer Research Center's Cancer Data Base to retrieve information to be used in the research projects. The data base, under the direction of Dr. J. P. Browder, assistant professor of surgery, contains patient and tumor identification data on approximately 26,000 malignancies seen at North Carolina Memorial Hospital since its founding in 1952.

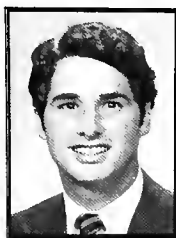
The program also will tie in with the Cancer Control Program, based in the Cancer Research Center, which seeks to improve clinical management of patients with breast, cervical and endometrial cancer in North Carolina.

\* \* \*

Six years ago, Dr. Joseph Buckwalter, professor of surgery, performed the first gastric partition operation in North Carolina to reduce the size of a patient's stomach and limit the amount of food which could be held. Since then, Buckwalter and Dr. Charles Herbst, associate professor of surgery, have performed about 400 partition procedures at N.C. Memorial Hospital. They currently do about four operations a week between them, and the demand is so great that patients accepted for surgery often have to wait three or four months.



B.B. Plyler, Jr., C.L.U.



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Buckwalter and Herbst stress that partition surgery is not for everyone with a weight problem. Generally they only accept patients who are at least 100 pounds over what is considered ideal, based on their height and frame. These patients are labeled "morbidly obese," because their weight poses a significant health threat.

Medical problems that often can be relieved by weight loss include high blood pressure, diabetes and arthritis.

"I've seen people confined to wheelchairs because they've gotten so heavy they can't walk without hurting their knees and ankles," Buckwalter said. "They are completely immobilized, simply because joints that were designed to carry 125 pounds are being asked to support 400 or 500 pounds. Not only are these people ruining their health, they are miserable human beings."

Herbst said the best candidates for partition surgery are reasonably healthy young adults for whom "there is a good chance of preventing or reversing medical problems before they cause irreparable damage."

"We've had diabetics who were on high doses of insulin every day and they were able to get off insulin completely after losing weight."

People whose obesity is related to a thyroid or adrenal disorder and those who have been obese for only a few years are not considered for surgery. And Herbst said that even for those who qualify, surgery is a last resort.

"It is far better to lose weight through dietary efforts than to go into surgery."

But for so many of his patients, Herbst said, the problem is maintaining a sustained weight loss through dieting.

"If you go on a diet and lose 40 pounds, that's still only a drop in the bucket for someone who weighs 400. It's terribly discouraging."

Gastric partition surgery is by no means a guaranteed cure for obesity, but some patients lose so much weight so fast they can practically see the pounds falling off. Buckwalter tells of a man who lost 225 pounds in just eight months and a woman who went from more than 500 pounds to 165.

For most patients, however, the weight loss is more modest, and a few lose only 20 or 30 pounds. Four out of five patients lost two-thirds of their excess weight within two years. But the physicians stress that in order to achieve an optimum, permanent weight loss, patients must change their lifestyles to include proper eating habits and regular exercise.

"Many of these people have atrocious eating habits and consume unbelievable amounts of food," Buckwalter said, recalling a woman who made a meal of five pounds of hot dogs the night before entering the hospital.

"In addition to doing the operation, we have to help them adopt a completely new lifestyle that doesn't totally revolve around eating."

Herbst said no one considering partition surgery, no

matter how desperate, should take the operation lightly.

"This is big-time surgery, and the possibility of complications should not be minimized," he said. "The chance of having a complication is 20 percent. The chance of having a major, life-threatening complication is 5 percent, and that's significant."

Because of the risks, Herbst said he doesn't operate on people he calls "curiosity seekers."

"I'm not interested in just making people pretty," he said. "I'm interested in making them healthy."

Nevertheless, both physicians agree that the boost to psychological well-being brought about by an improved appearance can be as important as the strictly physical benefits.

"For many people, this literally transforms their lives," Buckwalter said. "They feel re-born because they are able to do things they haven't done in years. They have a new self-image and renewed self-respect."

Buckwalter noted that at least 90% of the people who have partition surgery at N.C. Memorial Hospital are women. The reason, he said, is that obesity seems to create more psychological and social problems for women. "They tend to be more ashamed of it."

The motivation that brings morbidly obese people — both men and women — to the hospital for gastric partition surgery is simple, Buckwalter said. They just want to be normal.

\* \* \*

The appointments of two faculty members to endowed professorships in the School of Medicine have been announced by Chancellor Christopher C. Fordham III.

Dr. David E. Eifrig has been appointed to the Dr. and Mrs. Sterling A. Barrett professorship in ophthalmology, and Dr. Janet J. Fischer has been appointed to a Sarah Graham Kenan professorship in medicine. Eifrig's appointment was effective Dec. 1, and Fischer's was effective Jan. 1.

Eifrig is the first professor to hold the Barrett professorship, which was established last year by a gift from medical school alumnus Dr. Sterling A. Barrett and his wife Pauline. Barrett, formerly of Fayetteville, received his B.S. in medicine here in 1932.

Eifrig is a specialist in vitreous and retinal diseases and surgery, and in intraocular lens implantation.

In 1977, Eifrig joined the faculty of the School of Medicine as professor and chairman of the Department of Ophthalmology to head its first fulltime staff. Until then, ophthalmology faculty members also were in private practice.

Before coming to UNC-CH, Eifrig was an associate professor of ophthalmology at the University of Minnesota at Minneapolis. He was a Fellow at the Jules Stein Eye Institute at the University of California at Los Angeles and a faculty member at the University of Kentucky.

An Illinois native, Eifrig graduated from Carleton

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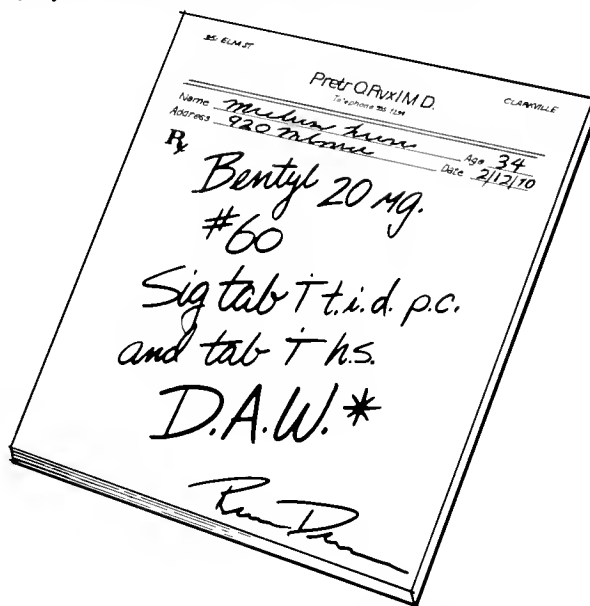


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- ⊕ Pharmacologic effect in the distal colon compared to placebo<sup>††</sup> shows how Bentyl affects abnormal motor activity in the irritable colon patient.<sup>†</sup>

<sup>†</sup> This drug has been classified "probably" effective for this indication.

**Merrell**

<sup>††</sup> In the experiments that showed significant pharmacologic effect, the dose of Bentyl used was 50 mg. I.M., which is higher than that permitted in the labeling. This dose was deemed justified since the recommended daily dose of injectable Bentyl is 20 mg. (2 ml.) every 4 to 6 hours. Thus, in 8 hours, a patient could receive a total of 60 mg. I.M. and at that time, as a result of the sustained plasma levels from the 20 mg. injections at 0 and 4 hours, might show an even higher plasma level that occurs after a single 50 mg. I.M. dose. Presumably, the same pharmacologic effect would follow. These observations do not constitute evidence of efficacy.

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Final classification of the less-than-effective indications requires further investigation.

**CONTRAINDICATIONS:** Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy); obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis); paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrhage, severe ulcerative colitis; toxic megacolon complicating ulcerative colitis, myasthenia gravis.

**WARNINGS:** In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. There are rare reports of infants, 6 weeks of age and under, administered dicyclomine hydrochloride syrup, who have evidenced respiratory symptoms (breathing difficulty, shortness of breath, breathlessness, respiratory collapse, apnea), as well as seizures, syncope, asphyxia, pulse rate fluctuations, muscular hypotonia, and coma. The above symptoms have occurred within minutes of ingestion and lasted 20 to 30 minutes. The timing and nature of the reactions suggest that they were a consequence of local irritation and/or aspiration rather than a direct pharmacologic effect. No known deaths or permanent adverse effects have been reported. Bentyl syrup should be used with caution in this age group.

**PRECAUTIONS:** Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy.

Use with caution in patients with:

Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon.

Hypertension, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension.

Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdose, a curare-like action may occur.

**ADVERSE REACTIONS:** Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia, urinary hesitancy and retention; blurred vision and tachycardia; palpitations; mydriasis; cycloplegia, increased ocular tension, loss of taste, headache, nervousness; drowsiness; weakness; dizziness; insomnia; nausea; vomiting; impotence; suppression of lactation; constipation; bloated feeling; severe allergic reaction or drug idiosyncrasies including anaphylaxis; urticaria and other dermal manifestations, some degree of mental confusion and/or excitement, especially in elderly persons; and decreased sweating. With the injectable form there may be a temporary sensation of light-headedness and occasionally local irritation.

**DOSAGE AND ADMINISTRATION:** Dosage must be adjusted to individual patient's needs.

## Usual Dosage

Bentyl 10 mg. capsule and syrup: *Adults:* 1 or 2 capsules or teaspoonfuls syrup three or four times daily. *Children:* 1 capsule or teaspoonful syrup three or four times daily. *Infants:* ½ teaspoonful syrup three or four times daily. (Dilute with equal volume of water.)

Bentyl 20 mg.: *Adults:* 1 tablet three or four times daily.

Bentyl Injection, *Adults:* 2 ml. (20 mg.) every four to six hours intramuscularly only.

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**MANAGEMENT OF OVERDOSE:** The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanecol chloride USP) should be used.

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College in Northfield, Minn. He received his M.D. degree from the Johns Hopkins University, where he completed his residency.

Fischer is the newest recipient of the Sarah Graham Kenan professorship, established in 1964. There are four other faculty members in the School of Medicine who hold chairs.

An infectious disease specialist, Fischer joined the University in 1952. She holds appointments in the Department of Medicine, and Bacteriology and Immunology.

Much of her research has contributed to understanding the causes and complications of urinary tract infections. She also has worked on the problems of Rocky Mountain spotted fever, a disease caused by infected ticks that is especially prevalent in North Carolina. During the past five years she has been studying the causes of byssinosis, or brown-lung disease, in a nationwide project involving several universities.

A Pennsylvania native, Fischer received her A.B. in chemistry from Vassar College and her M.D. from the Johns Hopkins University.

\* \* \*

Dr. P. Frederick Sparling has been named chairman of the Department of Bacteriology and Immunology in the School of Medicine.

The appointment was made by the University Board of Trustees at its meeting Feb. 13.

Sparling, professor of medicine and bacteriology, has been a member of the medical school faculty since 1969.

"Dr. Sparling is one of the most outstanding microbiologists and infectious disease experts in the country," said Dr. Stuart Bondurant, dean of the School of Medicine. "We will be fortunate to have his able leadership in the coming years as the department, which developed so well under the guidance of Dr. Philip Manire, moves toward new roles and accomplishments."

Manire is now university vice chancellor and dean of the graduate school.

Bondurant noted that the Department of Bacteriology and Immunology is "at the forefront of biomedical science and clinical practice because of its involvement in infectious disease immunology, virology and genetics."

Sparling has served for the past six years as chief of the division of infectious diseases in the Department of Medicine. He is a member of the University's Curriculum in Genetics and director of the North Carolina Program on Sexually Transmitted Diseases. His major research interests are bacterial genetics and physiology.

Sparling is a native of Evanston, Ill. He received his undergraduate degree from Princeton University and his M.D. degree from Harvard Medical School.

\* \* \*

Scientists at the School of Medicine are trying to

find out how too much or too little vitamin D sometimes leads to birth defects.

Dr. T. Kenney Gray, professor of medicine and pharmacology, and Dr. Gayle E. Lester, research assistant professor of medicine and pharmacology, are looking into fetal bone development and the way that Vitamin D regulates mineral utilization during pregnancy. They have received an \$18,000 grant from the March of Dimes Birth Defects Foundation to support their investigation for the current year.

Vitamin D is particularly instrumental in regulating the body's use of calcium. Among the birth defects associated with improper calcium metabolism are newborn convulsions, congenital rickets, abnormal tooth development, retarded growth and mental deficiency.

The UNC-CH researchers are studying how mineral metabolism changes during pregnancy and how metabolism differs between mother and fetus. The study focuses largely on the role of the placenta, which controls the exchange of nutrients between mother and fetus, in regulating mineral utilization.

"We hope that what we learn will be important in helping to understand, prevent and treat newborn diseases caused by disturbances of mineral metabolism," Lester said.

The March of Dimes currently supports birth defects research, medical service and education in North Carolina with grants totaling more than \$331,000.

\* \* \*

Former residents of Dr. Newton D. Fischer recently established the Newton D. Fischer Society to sponsor resident research and educational activities, according to Dr. W. Paul Biggers, associate professor of surgery.

"Many of Dr. Fischer's former residents recognized his lifelong interest in resident research and were aware that sources of funding have been dwindling," Biggers said. "The members of the Newton D. Fischer Society contributed funds, and will continue to do so annually to support resident research, which Dr. Fischer strongly believes to be an important part of resident education."

Some 60 former residents and spouses from throughout the Southeast attended the luncheon, which was held in conjunction with the biennial meeting of the Nathan Womack Society Feb. 7.

Fischer, who is Thomas J. Dark Distinguished Professor of Surgery, "has been here since they opened the door (of the hospital) in 1952," Biggers noted. "He's touched the lives of many students. When they remember their training here, they especially remember Dr. Fischer because he's such a remarkable person."

Chosen as officers for the Fischer Society's first year were Dr. Thomas B. Logan, Henderson, Ky., president; Dr. Terry L. Fry, assistant professor of surgery at the UNC-CH School of Medicine, vice president; Dr. John R. Emmett, Memphis, Tenn., secretary-treasurer.

Dr. Jay Arthur Anderson has been appointed clinical assistant professor of anesthesiology in the School of Medicine and of oral surgery in the School of Dentistry effective Jan. 1. A Minnesota native, his specialty is dental anesthesiology.

\* \* \*

Dr. James E. Brown, Department of Anesthesiology, and Dr. Keith W. T. Burrige, Departments of Anatomy and Biochemistry, have been appointed as assistant professors in the School of Medicine.

Brown, whose appointment was effective Jan. 15, has been in private practice since 1979. He was a resident at N.C. Memorial Hospital from 1976-79.

A Texas native, he earned his B.S. in 1972 from Lamar University and his M.D. in 1976 from the University of Texas Medical Branch at Galveston. He is a member of the American Society of Anesthesiologists.

Burrige has been a staff investigator at Cold Spring Harbor Laboratory since 1977 and did postdoctoral work there in 1975-77. His appointment was effective April 1.

A native of England and a British citizen, Burrige earned his B.A. in 1971 from Selwyn College, Cambridge University, and his Ph.D. from MRC Laboratory of Molecular Biology at Cambridge.

\* \* \*

James R. White, professor of biochemistry, reviewed his recent research on antibiotics at the Gordon Research Conference on "Oxygen Radicals in Biology and Medicine" in Ventura, Calif., Jan. 12-16.

\* \* \*

Dr. W. Ray Gammon, assistant professor of dermatology, was a visiting professor at the Department of Dermatology, University of Pennsylvania at Philadelphia Jan. 14-15. He lectured to faculty and residents on "Pathogenesis of Bullous Pemphigoid."

\* \* \*

Dr. John L. Currie, assistant professor of obstetrics and gynecology, received the first prize paper awarded from the Society of Gynecologic Oncologists at their twelfth annual meeting Jan. 13 in Marco Island, Fla. His paper, "Radioactive Chromic Phosphate Suspension Studies on Distribution, Dose Absorption and Effective Therapeutic Radiation in Phantoms, Dogs and Patients," was presented at the society's combined scientific sessions.

The yearly nationwide competition sponsored by the Society of Gynecologic Oncologists awards a prize of \$1,500 for the best paper dealing with basic and clinical research in gynecologic oncology.

Research efforts that led to the prize paper were conducted at Duke University School of Medicine where Currie was a fellow in gynecologic oncology and assistant professor of obstetrics and gynecology prior to joining the faculty of the University of North

Carolina at Chapel Hill School of Medicine in August 1980.

Co-authors in the study were Farideh Bagne, Ph.D.; Craig Harris, M.S.; Dr. Daniel L. Sullivan, Dr. Earl A. Surwit, Dr. Robert H. Wilkinson and Dr. William T. Creasman.

\* \* \*

Dr. Walter E. Stumpf, professor of anatomy and pharmacology, was an invited speaker at the American College of Neuropsychopharmacology annual meeting Dec. 16-18 in San Juan, Puerto Rico.

\* \* \*

Edward L. Chaney, associate professor of radiology, has been appointed to the American Association of Physicists in Medicine Commission on Accreditation of Education Programs for Medical Physicists.

\* \* \*

The School of Medicine's division of otolaryngology research program has been awarded a \$1,000 research grant to support the work of Dr. Jiri Prazma, assistant professor of surgery.

The grant, a gift from Econo Med Pharmaceuticals, will help Prazma continue his studies on the effect of vasodilators on the microcirculation of the inner ear.

\* \* \*

Dr. Edward H. Wagner, associate professor of medicine, has been named deputy director of research at the Health Services Research Center at UNC-CH.

\* \* \*

Dr. N. A. Coulter Jr., professor of surgery and physiology, presented a paper in a brain models symposium at the Society for General Systems Research meeting Jan. 6-9 in Toronto, Canada. He also presented a paper at the recent International Congress on Applied Systems Theory in Acapulco, Mexico.

\* \* \*

Marlys Mitchell, professor and director of the division of occupational therapy, represented the publications committee of the American Occupational Therapy Association at the AOTA executive board meeting Jan. 28-31 in Orlando, Fla.

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## EAST CAROLINA UNIVERSITY SCHOOL OF MEDICINE

Wachovia Bank and Trust Company has made a \$25,000 gift to the ECU Medical Foundation. The contribution announced the establishment of the Wachovia Fund for Excellence.

According to medical school Dean William E. Laupus, the fund will support the expansion of residency training programs and strengthen programs for disadvantaged students.

Dr. Edwin W. Monroe, president of the Medical Foundation, expressed appreciation for the gift and noted the continuing interest and support shown by Wachovia's leaders in the development of the medical school.

The presentation was made by Thomas A. Bennett, regional vice president of Wachovia and an ECU alumnus.

\* \* \*

Dr. Edwin W. Monroe, associate dean, has been named to the National Advisory Environmental Health Sciences Council.

The council is composed of 15 members nationally recognized as leaders in fundamental sciences, medical sciences and public affairs. Monroe, a specialist in internal medicine, will serve a four-year term.

The council reviews applications for grants relating to the environmental health sciences and recommends approval of worthy projects to the National Institutes of Health. The council is also responsible for surveying research in environmental health and identifying incentives to stimulate additional study.

Monroe joined ECU in 1968 as the first dean of the School of Allied Health and Social Professions and director of health affairs. In 1971 he was named vice chancellor for health affairs, a position in which he guided the development of the School of Medicine as well as programs in the allied health and nursing schools.

As a leader of the university's expanding health science programs, Monroe organized the Eastern Area Health Education Center involving 16 hospitals in the region. He has served as president of the board of directors since the center was established in 1974.

Monroe currently coordinates the development of undergraduate and graduate medical education programs in Eastern North Carolina hospitals and health centers and holds a faculty appointment as professor in the Department of Medicine.

He is a fellow of the American College of Physicians and serves on the editorial board of the *North Carolina Medical Journal*. He is a member of the state Health Coordinating Council and numerous committees and organizations concerned with health services delivery and health manpower education and training.

Seaboard Medical Society, a group of physicians practicing in northeastern North Carolina and eastern Virginia, has made a \$1,000 contribution to the School of Medicine.

Greenville neurosurgeon Ira Hardy presented the gift to Dr. William E. Laupus, medical school dean. Hardy said the donation was made "to express appreciation to ECU for supporting continuing education programs sponsored by Seaboard Medical Society."

The organization conducts a two-day conference annually in June. The medical school, in conjunction with the Eastern Area Health Education Center, provides assistance that allows physicians to receive continuing education credits for their participation.

Organized in the late 1800s, Seaboard Medical Society has more than 120 members.

\* \* \*

Dr. Donald R. Hoffman, associate professor of pathology and laboratory medicine, published "Correlation of IgG and IgE Antibody Levels to Honey Bee Venom Allergens with Protection to Sting Challenge" in the January issue of *Annals of Allergy*. Hoffman also presented the paper at the annual meeting of the American Academy of Allergy in Atlanta, Ga.

\* \* \*

Dr. P. Bruce Campbell, associate professor of medicine, and Dr. Seymour Bakerman, chairman of pathology and laboratory medicine, have received a \$2,500 grant from the Eli Lilly Company for research on "In-Vitro Evaluation of MANDOL versus other Antibiotics Using the Micromedia System." Campbell also received a \$2,500 grant to study "Phase IV Evaluation of Cefamandole."

\* \* \*

Dr. R. Frederick Becker, retired ECU professor of anatomy, is the co-author of a medical text published by W. B. Saunders. *The Radiology of Vertebral Trauma* was written in conjunction with Duke radiologists John Gehweiler and Raymond Osborne.

\* \* \*

The Department of Pediatrics has established a cytogenetics lab in the Division of Genetics. Under the direction of Dr. Kathleen Rao, the lab will offer nearly all of the sophisticated tests used in diagnosing genetic abnormalities. The lab, which is expected to open by early summer, will enable ECU to provide advanced genetic services for the state's 33 eastern counties.

\* \* \*

Drs. Gregory Iams and John Yeager, both assistant professors of physiology, co-authored "The Hemodynamics of Isoproterenol-Induced Cardiac Failure in the Rat" appearing in the May issue of *Circulatory Shock*.

Dr. Charles Boklage, assistant professor of microbiology, presented "The Distribution of Excess Non-righthandedness Among Twins and Their Families" at the ninth annual meeting of the International Neuropsychological Society February 4-7 in Atlanta.

\* \* \*

Dr. Walter Pories, professor and chairman, Department of Surgery, recently presented "The Death of Three Presidents" at the Society of General Surgeons' meeting in San Diego, Calif.

The presentation, made while Pories was a visiting professor at the Veteran's Hospital in San Diego, outlined the causes of death of former presidents James Garfield, Grover Cleveland and William McKinley. Pories discussed the medical treatment the presidents received and compared it to the current care delivered to patients with similar problems.

\* \* \*

Dr. David H. Hollander, professor of pathology and laboratory medicine, published "The Clinical and Laboratory Diagnosis of *Trichomonas Vaginalis* Infection" in the October/December issue of *The Journal of Sexually Transmitted Diseases*.

#### News Notes from the—

#### BOWMAN GRAY SCHOOL OF MEDICINE WAKE FOREST UNIVERSITY

The most prestigious award which can be given to a young neuroradiologist has been presented to a doctor at the Bowman Gray/Baptist Hospital Medical Center.

Dr. A. Ronald Cowley received the Cornelius G. Dyke Memorial Award from the American Society of Neuroradiology during the society's annual meeting in Chicago.

Cowley is completing a fellowship in neuroradiology this spring.

The Dyke award includes a \$1,000 prize and an expense paid trip to the Chicago meeting.

At the meeting, Cowley presented the scientific paper which won the award. The paper, entitled "The Influence of Fiber Tracts on the Computed Tomographic Appearance of Cerebral Edema — An Anatomical Pathological Correlation," describes how fluid which causes swelling in an injured brain travels along certain major nerve fiber pathways. That discovery helps to explain some of the unsolved mysteries of certain nervous system disorders.

The neuroradiology award is named for the father of American neuroradiology. Dyke was the nation's first neuroradiologist and was on the faculty of Columbia

## CYCLAPEN®-W (cyclacillin)

### Indications

Cyclacillin has less *in vitro* activity than other drugs in the ampicillin class and its use should be confined to these indications. Treatment of the following infections:

#### RESPIRATORY TRACT

Tonsillitis and pharyngitis caused by Group A beta-hemolytic streptococci  
Bronchitis and pneumonia caused by *S. pneumoniae* (formerly *D. pneumoniae*)  
Otitis media caused by *S. pneumoniae* (formerly *D. pneumoniae*) and *H. influenzae*  
Acute exacerbation of chronic bronchitis caused by *H. influenzae*

\*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*.

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, non-penicillinase producers.

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing.

Contraindications: Contraindicated in individuals with history of an allergic reaction to penicillins.

Warnings: Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions: Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY: Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS: It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.

Adverse Reactions: Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reported.

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

Cyclacillin is not indicated in children under 2 months of age. Patients with Renal Failure: Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

Dosage (Give in equally spaced doses)

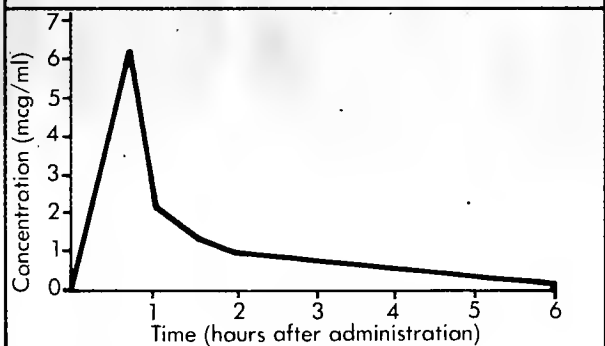
INFECTION	ADULTS	CHILDREN*
Respiratory Tract		
Tonsillitis & Pharyngitis	250 mg q.i.d.	body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d.
Bronchitis and Pneumonia		
Mild or Moderate Infections	250 mg q.i.d.	50 mg/kg/day q.i.d.
Chronic Infections	500 mg q.i.d.	100 mg/kg/day q.i.d.
Otitis Media	250 mg to 500 mg q.i.d.	50 to 100 mg/kg/day†
Skin & Skin Structures	250 mg to 500 mg q.i.d.	50 to 100 mg/kg/day†
Urinary Tract	500 mg q.i.d.	100 mg/kg/day

\*Dosage should not result in a dose higher than that for adults.  
†depending on severity

Half the dose  
is absorbed in 9 minutes!  
compared to 32 minutes for ampicillin.\*



Mean blood levels in mcg/ml after 250 mg cyclacillin single oral dose



- Rapid, virtually complete absorption from GI tract
- Exceptionally high peak blood levels – 3 times greater than ampicillin (Clinical efficacy may not always correlate with blood levels.)
- Rapidly excreted unchanged in urine – 1½ times faster than ampicillin

\*Based on  $T^{1/2}$  values for single oral doses of 500 mg cyclacillin tablet and 500 mg ampicillin capsule. Data on file, Wyeth Laboratories.

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Fewer episodes of diarrhea and rash than with ampicillin in studies to date.

Efficacy proven in the treatment of bronchitis, pneumonia, and upper respiratory infections.†

In 117 patients, 73 with bronchitis/pneumonia caused by *S. pneumoniae* and 44 with streptococcal sore throat caused by Group A beta-hemolytic streptococcus, CYCLAPEN®-W achieved a clinical response rate of 100%! Bacterial eradication was 95% and 86% respectively.

†Due to susceptible organisms.

See important information on facing page.

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125 and 250 mg per 5 ml Suspension

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NEW  
NAME

University's College of Physicians and Surgeons for 22 years.

The Dyke award recognizes original neuroradiological research by a junior faculty member or someone training in neuroradiology.

\* \* \*

Each year, more than a thousand people permit doctors at the Bowman Gray/Baptist Hospital Medical Center to thread a slender plastic tube through their arteries and into the chambers of their hearts.

For those patients, that is the first step in a diagnostic procedure known as cardiac catheterization which enables physicians to accurately detect such problems as congenital heart defects, leaking heart valves and clogged coronary arteries.

The medical center has two cardiac catheterization laboratories which, in the past year, performed 1,119 adult and 109 pediatric catheterization procedures. The number of procedures has been rising about 10% a year.

As a result of the increased patient load, there is overcrowding in the existing laboratories. And one of the facilities, dating back to 1972, is starting to show its age.

For those reasons, the medical center is preparing to open a third laboratory.

The new facility will cost more than \$1 million, with most of that money needed for the purchase of the required x-ray machine.

\* \* \*

Dr. David M. Biddulph, associate professor of anatomy, has been awarded a 1981 Faculty Foreign Travel Award. He will use the award to participate in the International Workshop on Calcium and Phosphate Transport Across Biomembranes in Vienna, Austria. He will present a paper there on the factors which regulate calcium transmission in the kidney.

\* \* \*

Leon L. Rice Jr., a Winston-Salem attorney, has been elected chairman of the Medical Center Board of the Bowman Gray School of Medicine and North Carolina Baptist Hospital.

He succeeds Francis E. Garvin of Wilkesboro.

E. J. Prevatte of Southport was elected vice chairman and Richard A. Williams of Newton was elected treasurer.

Miss Katherine Davis, assistant to the medical center director, was re-elected secretary.

The board, consisting of six trustees of Wake Forest University, six trustees of Baptist Hospital and a member of the medical center's professional staff, is responsible for the overall supervision of the medical center.

Dr. Manson Meads is director of the medical center.

Newly appointed members of the Medical Center Board include Edsel Cook of Boone, Dr. Thomas D. Long of Roxboro, and Dr. W. Boyd Owen of Waynesville. Dr. Joseph E. Johnson III, professor and chairman of the medical school's Department of Medicine, was reappointed as the professional staff member.

Appointed to the board's Executive Committee were Garvin, who is president and director of Holly Farms Poultry Industries, and Dr. Claude A. McNeill Jr., an Elkin physician.

\* \* \*

T. D. Flack Jr. has been named vice president for general services at North Carolina Baptist Hospital, Bowman Gray's principal teaching hospital.


He succeeds Reuben H. Graham, who retired after more than 30 years of service with the hospital.

In his new position, Flack will be responsible for hospital engineering, environmental services, infection control, dietary services, safety and security and student and resident housing.


\* \* \*


The Cancer Research Center at the Bowman Gray School of Medicine has been awarded a \$1.6 million grant by the National Cancer Institute to support its continued research for a three-year period.


Since its formation in 1972, the cancer center's aims have been to increase understanding of the basic



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biomedical mechanisms involved in cancer and to bring the fruits of research to the bedside of the patient.

In basic research, the center has placed special emphasis on work aimed at determining how normal cells are transformed into cancer cells, on understanding the biology of cell membranes as they relate to cancer, on the body's natural defense system, and on pharmacology, especially as it relates to the development of new anti-cancer drugs.

Clinical researchers have focused their attention on

the development, testing and rapid evaluation of new treatment methods.

In a program aimed at speeding up the transfer of cancer information to the practicing physician and thence to the patient, the cancer center has established the Piedmont Oncology Association, which brings together 72 cancer specialists in a four-state region. Through the association, the physicians and their patients have access to the latest in cancer treatments, while the cancer center is provided information which assists in evaluating the treatments.

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R

Dr. David L. Kelly Jr., professor of neurosurgery, has been elected to the executive council to the Cerebrovascular Section of the American Association of Neurological Surgeons.

\* \* \*

Dr. Quentin N. Myrvik, professor and chairman of the Department of Microbiology and Immunology, has been appointed to a four-year term to review grants for biomedical research relating to the National Aeronautics and Space Administration.

\* \* \*

Dr. Timothy C. Pennell, associate professor of surgery, has been appointed to the advisory board of the Duke University Andean Rural Health project.

\* \* \*

Dr. George Podgorny, clinical associate professor of surgery (emergency medical services), has been elected to a two-year term on the executive committee of the Medical Devices Standards Management Board of the American National Standards Institute.

#### News Notes from the—

#### DUKE UNIVERSITY MEDICAL CENTER

A computerized heart monitoring system, which physicians call the only one of its kind in the world, is

now in operation at Duke University Medical Center. The Central Surveillance System (CSS) uses 15 computers to continually record and report abnormally high or low heart rates.

The system is expected to help ease the hospital's nursing shortage.

The CSS can monitor as many as 197 patients at once, and because all 645 beds in the new North Division are wired for the system, patients do not have to be placed on a special floor to be monitored.

Dr. Larry Burton, assistant medical research professor of anesthesiology and assistant professor of electrical engineering, said:

"We got a system that was designed to meet Duke's specific needs. Ours is a computer-assisted monitoring system, but we still rely on people to watch the screens and check the bedside monitors."

The system works like this: A doctor prescribes a safe range of heart rates for a patient and gives the range to a respiratory care technician. A portable bedside monitor is adjusted to the ranges prescribed. The monitor sends information about the patient's heart rate through wiring in the room and to a switchboard connected to the computer.

Some patients have their electrocardiogram readings sent to the bedside monitor by a radio transmitter which allows them to walk anywhere on the floor and still be monitored. Others have their ECG patches taped to the chest and connected to the bedside monitor by wires.

If a patient's heart rate goes outside the safe range, the ECG reading is immediately transferred to one of 40 computer screens in the cardiac care unit. Alarms go off in the patient's room, at the nursing station and at screens in each hallway. The patient's room number is flashed on these screens. An alarm also sounds in the monitoring room, where two attendants constantly watch the screens. The attendants use a "hot-line" phone to call the nursing station nearest the patient to make certain the patient's nurses are alert.

Three years of study and work went into development of the CSS, with Dr. D. Woodrow Benson, Jr., serving as chairman of the CSS subcommittee. Benson, assistant professor of pediatric cardiology, said:

"A project of this magnitude would never have gotten off the ground without the cooperation from all involved. There's not another system like it in the world."

\* \* \*

Surprising everyone, the three divers in the hyperbaric chamber at Duke University Medical Center popped out of the chamber 34 minutes early, healthy and in good spirits after their record-setting 43 days under pressure simulated to equal that at depths as deep as 2,250 feet. The 2,250-foot depth breaks the previous world's record, also set in the high pressure chamber in the F. G. Hall Laboratory for Environmental Sciences at Duke.

The dive, third in a series of 10 in the long-term Atlantis project, was designed to learn more about the

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# Examine Me.

During the past several years, I have heard my name mentioned in movies, on television and radio talk shows, and even at Senate subcommittee sessions. And I have seen it repeatedly in newspapers, magazines, and yes, best-sellers. Lately, whenever I see or hear the phrases "overmedicated society," "overuse," "misuse," and "abuse," my name is one of the reference points. Sometimes even *the* reference point.

These current issues, involving patient compliance or dependency-proneness, should be given careful scrutiny, for they may impede my overall therapeutic usefulness. As you know, a problem almost always involves improper usage. When I am prescribed and taken correctly, I can produce the effective relief for which I am intended.

Amid all this controversy, I ask you to reflect on and re-examine my merits. Think back on the patients in your practice who have been helped through your clinical counseling and prudent prescriptions for me. Consider your patients with heart problems, G.I. problems, and interpersonal problems who, when their anxiety was severe, have been able to benefit from the medication choice you've made. Recall how often you've heard, as a result, "Doctor, I don't know what I would have done without your help."

You and I can feel proud of what we've done together to reduce excessive anxiety and thus help patients to cope more successfully.

If you examine and evaluate me in the light of your own experience, you'll come away with a confirmation of your knowledge that I *am* a safe and effective drug when prescribed judiciously and used wisely.

For a brief summary of product information on Valium (diazepam/Roche)® , please see the following page. Valium is available as 2-mg, 5-mg and 10-mg scored tablets.

# Valium® diazepam/Roche

**Before prescribing, please consult complete product information, a summary of which follows:**  
**Indications:** Management of anxiety disorders, or short-term relief of symptoms of anxiety. Symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal, adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy). The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication. Abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

**Usage in Pregnancy:** Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

**Precautions:** If combined with other psychotropic or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other anti-depressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported. Should these occur, discontinue drug. Isolated reports of neutropenia, jaundice, periodic blood counts and liver function tests advisable during long-term therapy.

**Dosage:** Individualize for maximum beneficial effect. **Adults:** Anxiety disorders, symptoms of anxiety 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours then 5 mg t.i.d. or q.i.d. as needed, adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or n.i.d., adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. **Geriatric or debilitated patients:** 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) **Children:** 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

**Supplied:** Valium® (diazepam/Roche) Tablets, 2 mg, 5 mg and 10 mg—bottles of 100 and 500. Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10. Prescription Paks of 50, available in trays of 10.

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effects of pressures at great underwater depths. The ultimate purpose is to discover ways in which human beings can work safely, comfortably and efficiently at the depths required in such fields as offshore oil work, undersea mining, energy conversion projects, maritime agriculture, salvage operations and others.

The director of the dive is Dr. Peter B. Bennett, professor of anesthesiology and director of the F. G. Hall Lab. Bennett likened the underwater exploration to the probing of outer space. He predicted that the work of the volunteer divers — Erik Kramer, Leonard Whitlock, Stephen Porter — will one day come to be regarded with the same importance as that done by astronauts.

\* \* \*

Dr. Everett R. Ellinwood Jr., professor of psychiatry, received a \$155,942 grant from the National Institute on Drug Abuse. The grant supports Ellinwood's multiphase study of "Chronic Stimulant Intoxication."

\* \* \*

Dr. Jacob J. Blum, professor of physiology, received an \$88,920 award from the National Institute of Child Health and Human Development. Blum is studying the "Control of Metabolism in Tetrahymena."

\* \* \*

The Department of Anatomy received an \$18,338 grant for the "Biogeographic and Systematic Studies of Extinct Antillean Land Mammals."

\* \* \*

Dr. James K. Roche, assistant professor of gastroenterology, received a \$74,263 award from the National Institute of Arthritis, Metabolism and Digestive Diseases for the study of "Immunological Mechanisms for Gut Inflammation."

\* \* \*

Dr. Daniel G. Blazer, associate professor of psychiatry, received a \$352,378 grant from the National Institute of Mental Health for "Epidemiological Catchment Area."

\* \* \*

Dr. Robert M. Bell, associate professor of biochemistry, has won a Macy Fellowship for a year's study at Cambridge. He will study membrane biogenesis.

\* \* \*

Dr. Raymond U, assistant professor of radiology, will speak on "Prospective Methods of Radiation Therapy in Developing Countries" at a meeting sponsored by the International Atomic Energy Agency in Kyoto, Japan, Aug. 31-Sept. 4.

\* \* \*

Dr. Myron Wolbarsht, professor of ophthalmology

and biomedical engineering, received a service citation from the Society of Photo-Optical Instrumentation Engineers. The citation is in appreciation for Wolbarsht's contributions as co-chairman of the society's 1980 symposium. Wolbarsht and David H. Slimey published a book, "Ocular Effects of Non-ionizing Radiation," detailing the subject matter presented at the symposium.

\* \* \*

Dr. David T. Smith, of Little Rock, Arkansas, died on January 20, 1981. Smith was a member of the original faculty of the Duke University School of Medicine, serving as chairman of the Department of Microbiology for 30 years and later as chairman of the Department of Preventive Medicine. He authored several books on microbiology and mycology and was internationally recognized for his research in tuberculosis and fungus infections. Dr. Smith is survived by his wife Susan Gower Smith, a daughter and five grandchildren.

\* \* \*

Dr. John J. Gallagher and others at Duke University Medical Center have reported on a technique for electrically pacing the heart by means of an electrode-tipped lead passed through the patient's nostrils and swallowed down the esophagus. Gal-

lagher says the new technique provides a reliable, safe, efficient and less costly alternative in certain cases to the use of cardiac catheterization.

Gallagher is professor of medicine in the division of cardiology and director of the Clinical Electrophysiology Laboratory at Duke. Results of his study were presented at the 53rd Scientific Session of the American Heart Association in Miami Beach last fall.

"The beauty of this lead," he said, "is that it gives the physician instant, reliable results. It can be used quickly and easily in any situation, whether the patient is ambulatory or confined to a bed, in emergency situations or outpatient situations. The process doesn't involve any surgery and causes minimal discomfort to the patient."

The lead can be used to induce tachycardia in patients who are asymptomatic while being examined. The lead also can terminate tachycardia, thus eliminating the need for cardioversion. Other uses, according to Gallagher, are in temporary management of bradycardia and assessment of the long-term efficacy of drug therapy for certain tachycardia conditions.

The lead itself, a 59 cm length of soft plastic tubing with imbedded wires, surmounts problems of earlier esophageal leads by wider spacing of the electrodes and longer pulse durations (10 times the duration of earlier leads).

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"I'd like to think that this lead will become a standard part of the physician's repertoire for screening and therapy in the very near future," Gallagher said. "It allows us to acquire important information for the care of the patient in an easier and safer manner."

The development of the esophageal lead grew out of the work of Gallagher, Dr. Will C. Sealey and others at Duke who have worked with Wolff-Parkinson-White syndrome. Sealey is professor in the division of general and thoracic surgery in the Department of Surgery. The electronic stimulating device used in the technique was constructed at Duke by Jack Kasell of the Department of Medicine. Development and testing was done by Gallagher, Drs. Warren Smith and Charles Kerr and Laura Cook, R.N., all of the division of cardiology in the Department of Medicine.

\* \* \*

Dr. Andrew G. Wallace has been named associate vice president of Duke University Medical Center. The position gives Wallace responsibility for the 1,008-bed Duke University Hospital.

Wallace is Walter Kempner Professor of Medicine and chief of the division of cardiology in the Department of Medicine.

He succeeds Dr. Roscoe R. (Ike) Robinson, who

has been named vice president for medical affairs at Vanderbilt University. Wallace's appointment was approved by the Duke trustees.

"I am honored by the appointment," Wallace said. "More importantly, I feel challenged by the opportunity to help an already great university and medical center achieve its full potential. I look forward to working toward our goal of being the best, with the patients, students, faculty and the thousands of other dedicated people who make the medical center work. I am particularly fortunate to be able to build on the superb foundation laid by Dr. Robinson, Stuart Sessoms and others before them," he added.

"Andy Wallace was the unanimous choice of the committee recommending a successor to Dr. Robinson. He is eminently qualified to occupy this key position. An internationally renowned cardiologist, he holds the high respect of the faculty and staff," said Dr. William G. Anlyan, vice president for health affairs at Duke.

Wallace received his M.D. in 1959 from Duke University School of Medicine. He joined the faculty as assistant professor of medicine in 1965 and was a Markle Scholar from 1965-1970. He was named chief of cardiology in 1969 and professor of medicine in 1971.



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His major areas of research have included the physiology of the heart, alterations of heart rhythm and coronary heart disease.

The author of more than 170 scientific publications, Wallace serves on the editorial board of six major scientific journals and is associate editor of major textbooks on internal medicine, cardiology and nursing.

Wallace is widely known as the developer of the innovative Duke University Preventive Approach to Cardiology (DUPAC), a program designed to prevent heart disease through planned exercise, sensible diet and medical attention.

The DUPAC program's permanent home will be in a

three-story, 30,000-square-foot facility being built at Wallace Wade Stadium. The \$2.5 million facility also will serve as press box for Duke University athletics.

Wallace also helped develop the Physician's Assistant Program and the "Computerized Medical Textbook" project, a long-term system for the compilation and storage of data on thousands of patients in order to extend the experience and knowledge of practicing physicians.

Wallace recently was appointed to the cardiology advisory council of the National Heart, Lung and Blood Institute, and he has served as consultant to the American Heart Association, the National Institutes of Health and the Veterans Administration.

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### Newly Observed Affection of the Thyroid Gland in Females

I have lately seen three cases of violent and long continued palpitations in females, in each of which the same peculiarity presented itself, viz. enlargement of the thyroid gland; the size of this gland, at all times considerably greater than natural, was subject to remarkable variations in every one of these patients. When the palpitations were violent the gland used notably to swell and become distended, having all the appearance of being increased in size in consequence of an interstitial and sudden effusion of fluid into its substance. The swelling immediately began to subside as the violence of the paroxysm of palpitation decreased, and during the intervals the size of the gland remained stationary. Its increase of size and the variations to which it was liable had attracted forcibly the attention both of the patients and of their friends. There was not the slightest evidence of any thing like inflammation of the gland.

In one the beating of the heart could be heard during the paroxysm at some distance from the bed, a phenomenon I had never before witnessed, and which strongly excited my attention and curiosity. — Robert J. Graves, 1834-5.

Another fact well worthy of notice, is that females liable to attacks of palpitations almost invariably complain of a sense of fulness, referred to the throat, and exactly corresponding to the situation of the thyroid. This sensation only continues while the paroxysm of palpitation lasts, and frequently is so urgent as forcibly to attract the patient's notice, who now complains of its inducing a sense of suffocation. Here the interesting question occurs whether this feeling of something that impedes the respiration at the bottom of the throat, during the hysterical fit, and which has been included under the general term *globus hystericus*, — the question arises, I say, whether this feeling is always of purely nervous origin. — Robert J. Graves, 1834-5.

A lady, aged twenty, became affected with some symptoms which were supposed to be hysterical. This occurred more than two years ago; her health previously had been good. After she had been in this nervous state about three months it was observed that her pulse had become singularly rapid. This rapidity existed without any apparent cause, and was constant, the pulse being never under 120, and often much higher. She next complained of weakness on exertion, and began to look pale and thin. Thus she continued for a year, but during this time she manifestly lost ground on the whole, the rapidity of the heart's action having never ceased. It was now observed that the eyes assumed a singular appearance for the eyeballs were apparently enlarged, so that when she slept or tried to shut her eyes, the lids were incapable of closing. When the eyes were open, the white sclerotic could be seen, to a breadth of several lines, all around the cornea. In a few months, the action of the heart continuing with increasing violence, a tumour, of a horseshoe shape, appeared on the front of the throat and exactly in the situation of the thyroid gland. — Robert J. Graves, 1834-5.

# *View From Raleigh*

The North Carolina General Assembly convened Jan. 14 in Raleigh. The House of Representatives is composed of 96 Democrats and 24 Republicans, of whom 87 are incumbents, and the Senate of 40 Democrats and 10 Republicans, 39 of whom are incumbents. For most legislators it is not their initial session.

The House under the leadership of a new speaker, Liston B. Ramsey (D-Madison), moved quickly to organize and elected Allen C. Barbee (D-Nash) as speaker pro tem. Ramsey appointed Rep. Thomas Hunter (D-Richmond) as chairman of the House Health Committee which will consider most medical issues.

In the Senate the leadership changed little from the 1979 session. The chamber will be headed by its constitutional president, Lt. Governor James C. Green; the president pro tem once again will be Sen. Craig Lawing (D-Mecklenburg), the majority leader Kenneth C. Royall Jr. (D-Durham), while the chairman of the Human Resources Committee is Sen. Ollie Harris (D-Cleveland).

In opening remarks to the Senate, Lt. Governor Green stressed the need to preserve North Carolina's quality of life using existing resources. He reminded each member of the responsibility to distinguish between what is necessary and what is merely desirable.

Ramsey, speaking before the House, declared that every North Carolinian has the right to effective, available and affordable health care; to personal safety and a fair system of law and justice; to a clean environment and an adequate supply of energy; to a reliable system of transportation; and to decent treatment when young, dignity when old, and opportunity at all ages.

Also in the opening days of the Legislature, Gov. James B. Hunt presented to the General Assembly during his State of the State address his proposed budget which he described as "a program for progress, a strategy for the future." Joint Base Budget Committees of both the House and Senate have begun work reviewing the governor's proposals. Concern over rising Medicaid costs arose during early sessions of the House and Senate Base Budget Committees on Human Resources. Expected cuts in federal aid have increased legislative awareness of the cost of this program to the state.

The 1981 session marks the first time in many years that the General Assembly does not have a medical doctor among its members. Because of the many visitors in the Legislative Building and the stressful conditions under which legislators work, particularly late

in the session, the North Carolina Medical Society offered and the General Assembly accepted a proposal that the society assist in providing medical services by individual physicians as "Legislative Physicians" of the day. The response from the medical society membership to the request has been good. The first "doctors of the day" were enthusiastically received by legislators and their staffs. A special parking space was designated and an office was provided for the physicians' use. Many states including South Carolina, Georgia and Tennessee, have similar programs.

The Committee on Legislation, in conjunction with the Committee on Communications, held its biennial Legislative Reception on Feb. 5 at the Capital City Club, and the event, entitled "A Night at the Top," was a rousing success. More than 450 legislators and doctors, spouses and staff attended the affair.

While all this is, of course, important to understanding the mood of the General Assembly, medically oriented legislation has already begun to make its appearance. A series of four bills introduced by Rep. Ted Kaplan (D-Forsyth) have drawn the opposition of the North Carolina Medical Society's Committee on Legislation. The first, HB 152, would repeal North Carolina's malpractice laws: the four statutes enacted on the recommendation of a Legislative Study Commission in 1976, after eight months of intensive study and debate concerning professional liability of health care practitioners and physicians, as well as other professionals. The 1976 bill was supported by the Medical Society. Those statutes shorten the time within which suits against professionals may be instituted, codify the law defining standards of care, and define the basis for liability on the grounds of lack of informed consent of a patient, and limit the liability for damages of people acting as "good samaritans" in rendering aid to victims of accidents and other emergencies. Repeal of these statutes would bring back the same issues which were the cause of the medical malpractice insurance crisis in the mid-1970s.

Kaplan's second bill, HB 167, would add two public members appointed by the governor to the Board of Medical Examiners. The medical society gave extensive testimony before the N.C. Governmental Evaluation Commission over the summer questioning the need for this additional expense. Kaplan's third bill, HB 189, would create the North Carolina Health Services Cost Review Commission, to provide for the control of hospital costs, and to transfer authority for certification-of-need review from the Department of



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Human Resources to the commission. The commission would be composed of nine members, three each appointed by the governor, speaker and president pro tempore of the Senate for four-year staggered terms, and would elect its own chairman. Members could serve two consecutive terms. No more than two members could be affiliated with a hospital or health product manufacturer or health insurer; an executive director would serve as the chief administrator for the program.

The commission would be empowered to hold hearings; conduct investigations with subpoena power; promulgate rules and regulations required for federal funding; seek and accept grants from and enter contracts with governments; provide technical assistance to health care facilities to facilitate compliance with the articles; establish a uniform system of accounting and financial reporting for all hospitals taking into consideration hospital size, existing systems and federal requirements; require annual financial reports from hospitals; establish growth ceilings for hospital revenues; approve reasonableness of hospital rates; modify systems for determining rate structures; and hold public hearings on proposed rate changes. The bill would allow the attorney general to intervene in any commission proceeding on behalf of the public. It would also amend the present "Certificate of Need Law" and make the commission the state health planning and development agency for issuing certificates of need as required under certain federal laws for receipt by health care facilities of federal funds. The bill would be effective upon ratification.

Kaplan's final bill, HB 194, would allow blanket generic substitution of drugs. Those authorized to write prescriptions would only be able to prevent generic drug substitution if in their own handwriting the words "Dispense as Written" were written on the prescription form. The bill would provide that no other method of instruction would be adequate to preclude substitution. The current drug substitution statute was enacted at the request of the Medical Society and others in 1979. Under the present statute, pharmacists are not allowed to substitute if a physician indicates orally, in handwriting, or by pre-printed instruction on a two-line prescription form that a drug should be "Dispensed as Written." Should Kaplan's bill pass, the two-line prescription form could no longer be used to prevent substitution.

Rep. Patricia Hunt (D-Orange) introduced House Bill 218 known as "Nursing Practice-Regulated." The bill was drafted by the North Carolina Nurses' Association and is a complete revision of the Nurse Practice Act in North Carolina, providing a new definition of the practice of nursing. The Committee on Legislation has felt that the current definition of nursing is quite broad and representative of the many humane acts provided by those people engaged in the practice of nursing. The new definition, coupled with a deletion from the present statutes of an exemption which allows persons to perform "specified mechanical acts under the direction of a licensed physician, nurse or dentist," makes the new proposal quite restrictive. The new draft would delete the two doctors and two hospital administrators from the board and require continuing education for license renewal. This aspect of the bill could have substantial impact on voluntary effort in hospital cost containment programs.

The proposed statute omits a provision in the current law which guarantees the right of hospitals to operate diploma schools of nursing. We believe it is important for the statute to encourage additional educational units in nursing. It has been the feeling of the Committee on Legislation that this specific provision be retained in the new act. Perhaps, most importantly, the bill would give autonomy to the joint subcommittee of the Board of Medical Examiners and the Board of Nursing which certifies nurse practitioners. Currently, both boards have a veto over actions of the joint subcommittee. Our Committee on Legislation feels very strongly that the Board of Medical Examiners should have the ultimate responsibility for the quality of the delivery of medical acts. The committee will vigorously oppose this provision.

In order to keep you better informed, the Committee on Legislation has a toll free telephone line, 1-800-662-7216. Any member may call this line once a day and hear a tape recorded message on current legislative issues. If you would like to express concern to your representative in the General Assembly on any of these issues, write to them at the State Legislative Building, Raleigh, N.C. 27611.

Thomas L. Adams  
Assistant Executive Director, Public Affairs  
N.C. Medical Society

# Classified Ads

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# Bactrim<sup>TM</sup>

(trimethoprim and sulfamethoxazole)

## succeeds

Bactrim is useful for the following infections when due to susceptible strains of indicated organisms (see indications section in summary of product information):

**Expanding its usefulness in antimicrobial therapy**



**in recurrent UTI...**  
a continuing record of high clinical effectiveness against common uropathogens

**in acute otitis media in children...**  
effective against both major otic pathogens...with b.i.d. convenience

**in acute exacerbations of chronic bronchitis in adults...**  
clears the sputum and lowers its volume...on b.i.d. dosage

**in shigellosis...**  
faster relief of diarrhea than with ampicillin<sup>2</sup>



Before prescribing, please consult complete product information, a summary of which follows:

**Indications and Usage:** For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, *Proteus vulgaris*, *Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. Note: The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. Limited clinical information presently available on effectiveness of treatment of otitis media with Bactrim when infection is due to ampicillin-resistant *Haemophilus influenzae*. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonia. To date, this drug has been tested only in patients 9 months to 16 years of age who were immunosuppressed by cancer therapy.

**Contraindications:** Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus, infants less than 2 months of age.

**Warnings:** BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A  $\beta$ -hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended, therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

**Precautions:** General: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin, reassess coagulation time when administering Bactrim to these patients.

**Pregnancy:** Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folate acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

**Adverse Reactions:** All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. Blood dyscrasias: Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. Allergic reactions: Erythema

multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. Gastrointestinal reactions: Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. CNS reactions: Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness.

Miscellaneous reactions: Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

**Dosage:** Not recommended for infants less than two months of age. URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

**Adults:** Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

**Children:** Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment. Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

**ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:**

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

**PNEUMOCYSTIS CARINII PNEUMONITIS:**

Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

**Supplied:** Double Strength (DS) tablets, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose<sup>®</sup> packages of 100; Prescription Paks of 20 and 28. Tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose<sup>®</sup> packages of 100; Prescription Paks of 40. Pediatric Suspension, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry-flavored—bottles of 100 ml and 16 oz (1 pint).

Suspension, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).



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in recurrent urinary tract infections\*

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Bactrim continues to demonstrate high clinical effectiveness in recurrent urinary tract infections. Bactrim reaches effective levels in urine, serum, and renal tissue<sup>1</sup>... the trimethoprim component diffuses into vaginal secretions in bactericidal concentrations<sup>1</sup>... and in the fecal flora, Bactrim effectively suppresses Enterobacteriaceae<sup>2</sup> with little resulting emergence of resistant organisms.

1. Rubin RH, Swartz MN. *N Engl J Med* 303:426-432, Aug 21, 1980. 2. Data on file, Medical Department, Hoffmann-La Roche Inc.

## Bactrim<sup>TM</sup> DS

160 mg trimethoprim and 800 mg sulfamethoxazole

DOUBLE STRENGTH TABLETS

maximizes results with B.I.D. convenience



Use to suppress strains of indicated organisms

Please see previous page for Summary of product information.



# North Carolina

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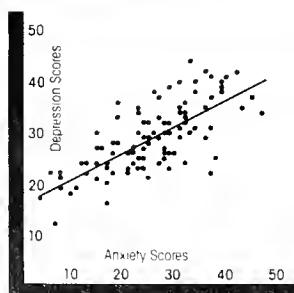
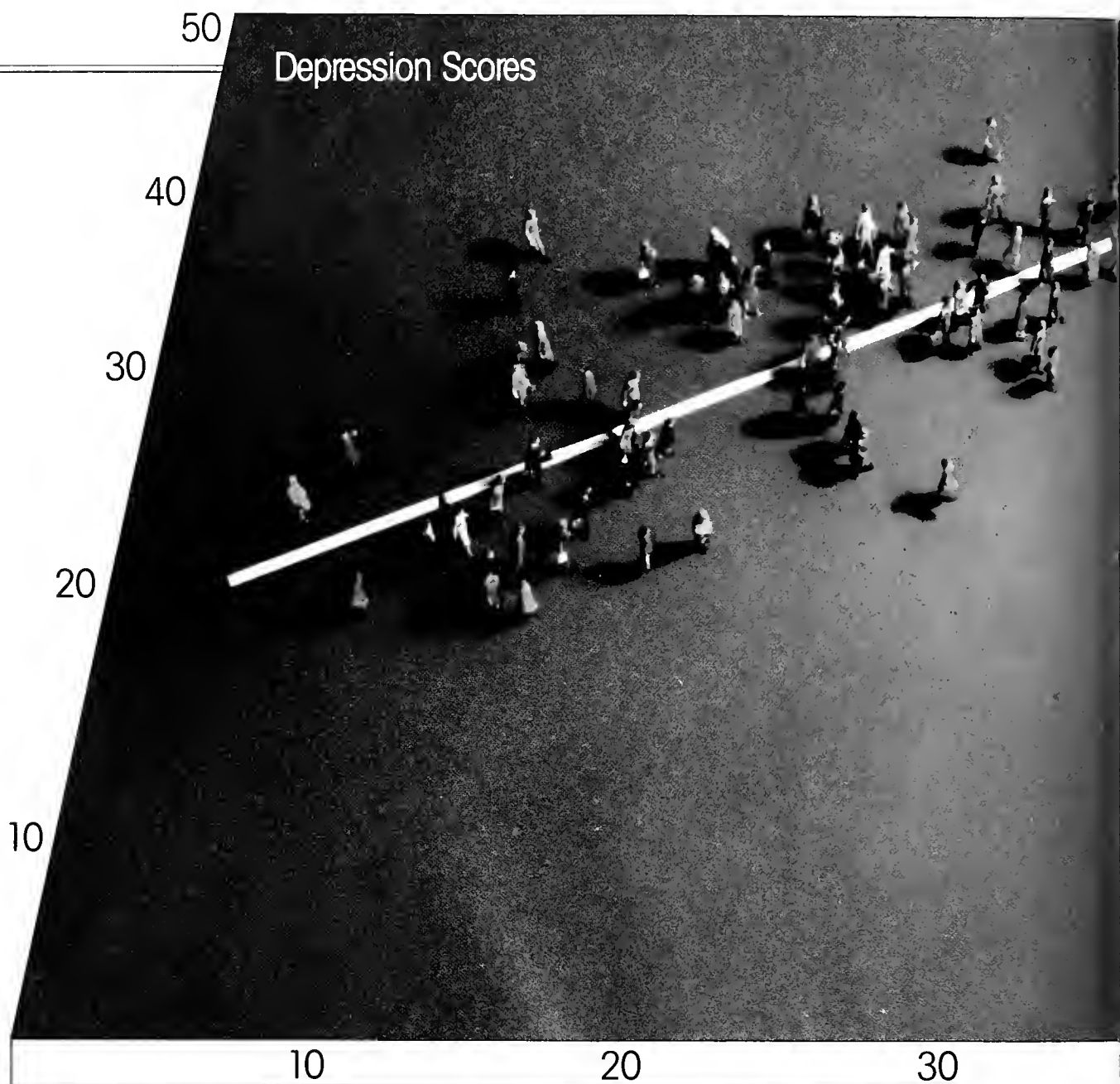
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JAROSLAV F. HULKA  
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07514

# FOR THE 7 OF 10 NONPSYCHOTIC



## Clear correlation between anxiety and depression<sup>3</sup>

The above graph illustrates a relationship between anxiety and depression, indicating that patients seldom present with anxiety or depression alone, more often they have both in varying degrees. Data based on a sampling of 100 outpatients (64 male, 36 female) seen at a general psychiatric clinic.

<sup>3</sup>Adopted from Claghorn, J. The anxiety-depression syndrome. *Psychosomatics* 11:438-441, Sept-Oct 1970.

# DEPRESSED PATIENTS WHO ARE ALSO ANXIOUS<sup>1,2</sup>

## Most depressed patients are also anxious. . .

Some authors estimate that 70% of all nonpsychotic patients with symptoms of depression have concomitant symptoms of anxiety.<sup>1,2</sup> One author found a distinct correlation between anxiety and depression scores in 100 nonpsychotic outpatients administered the Minnesota Multiphasic Personality Inventory in a general psychiatric clinic.<sup>3</sup> As depression scores increased, so did anxiety scores. No attempt was made to select patients other than to exclude psychotics.

## but not psychotic

The logic of treating both components of anxious depression is clear. Antipsychotics, like the phenothiazines, however, carry a well-documented risk of tardive dyskinesia.<sup>4</sup> Because of this, an APA Task Force recently recommended the judicious use of phenothiazines in cases other than chronic psychosis or the use of alternative treatments.

## A better way to give relief

Limbitrol combines the specific anxiolytic action of Librium® (chlordiazepoxide HCl/Roche)—a benzodiazepine with a long history of safe use—with the antidepressant action of amitriptyline, a tricyclic of established clinical efficacy. In comparison to phenothiazines, Limbitrol and its components have rarely been associated with tardive dyskinesia or other extrapyramidal side effects. And in terms of rapid response and patient compliance, Limbitrol appears to be superior to amitriptyline alone. Controlled multiclinic studies showed Limbitrol relieved more symptoms more rapidly than did amitriptyline.<sup>5</sup> Despite a higher incidence of drowsiness, the dropout rate due to side effects was lower with Limbitrol. (See adverse reactions section in summary of product information on next page. As with any CNS-acting agent, patients should be cautioned about driving or using dangerous machines while on therapy with Limbitrol.)

**References:** 1. Rickels K: Drug treatment of anxiety, in *Psychopharmacology in the Practice of Medicine*, ed. Jarvik ME. New York, Appleton-Century-Crofts, 1977, p. 316. 2. Schatzberg AF, Cole JO: Benzodiazepines in depressive disorders. *Arch Gen Psychiatry* 35:1359-1365, 1978. 3. Claghorn J: The anxiety-depression syndrome. *Psychosomatics* 11:438-441, 1970. 4. The Task Force on Late Neurological Effects of Antipsychotic Drugs: Tardive dyskinesia, summary of a task force report of the American Psychiatric Association. *Am J Psychiatry* 137:1163-1172, 1980. 5. Feighner JP *et al*: A placebo-controlled multicenter trial of Limbitrol versus its components (amitriptyline and chlordiazepoxide) in the symptomatic treatment of depressive illness. *Psychopharmacology* 61:217-225, 1979.

In moderate depression and anxiety

# Limbitrol®<sup>IV</sup>

Tablets 5-12.5 each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)

Tablets 10-25 each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt)

## Relief without a phenothiazine

Please see summary of product information on next page.

Anxiety Scores

50

## LIMBITROL® TABLETS Tranquilizer—Antidepressant

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Relief of moderate to severe depression associated with moderate to severe anxiety

**Contraindications:** Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use, then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.

**Warnings:** Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients. (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

**Usage in Pregnancy:** Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage, withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline, symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).

**Precautions:** Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12.

In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.

**Adverse Reactions:** Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs.

**Cardiovascular:** Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

**Psychiatric:** Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.

**Neurologic:** Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.

**Anticholinergic:** Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.

**Allergic:** Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.

**Hematologic:** Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.

**Gastrointestinal:** Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.

**Endocrine:** Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels.

**Other:** Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

**Overdosage:** Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

**Dosage:** Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly. Limbitrol 10-25, initial dosage of three to four tablets daily in divided doses, increased to six tablets or decreased to two tablets daily as required. Limbitrol 5-12.5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher doses.

**How Supplied:** White, film-coated tablets, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) and blue, film-coated tablets, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500, Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10, Prescription Paks of 50.

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PLAN  
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September 23-27, 1981

Mid Pines Club  
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→ ANNUAL MEETING  
May 6-9, 1982

Pinehurst Hotel  
Pinehurst, N.C.



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- **100% cure rate with Tegopen®** (cloxacillin sodium)
- **only a 60% cure rate with penicillin V-K**



**As seen on admission**



**After one week of penicillin V-K therapy**



**Two weeks after initiation of TEGOPEN therapy**

Treatment failure was judged to have occurred when lesions increased in size and/or number during the initial week of treatment with penicillin V-K. No treatment failures occurred with Tegopen.

\*Data on file, Bristol Laboratories.

#### Brief Summary of Prescribing Information

**TEGOPEN®**  
(cloxacillin sodium)  
Capsules and Oral Solution

For complete information, consult Official Package Circular.

(12) 9/11/75

#### INDICATIONS:

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected. (See Important Note below.)

Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

#### IMPORTANT NOTE

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital. For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing. Such strains of staphylococci have been capable of producing serious disease, in some instances resulting in fatality. Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

#### CONTRAINDICATIONS:

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.



## RESULTS OF ORAL THERAPY revealed a high percentage of treatment failures with penicillin V potassium, but *no* failures with Tegopen.

		Given Tegopen® (cloxacillin sodium)	Given penicillin V-K
<i>Staphylococcus aureus</i>	(78 patients)	39	39
Returned to clinic at one week		29†	38†
Treatment failure at one week		0	18 (47.4%)
<i>Staphylococcus aureus</i> and <i>Streptococcus pyogenes</i>	(9 patients)	4	5
Returned to clinic at one week		4	5
Treatment failure at one week		0	2 (40%)
No initial bacterial growth	(14 patients)	9	5
All 14 healed, regardless of which antibiotic was administered.			
Beta-hemolytic <i>Streptococcus</i>	(1 patient)	0	1
<b>TOTALS:</b>	<b>102 patients</b>	<b>52 patients</b>	<b>50 patients</b>

†Eleven patients did not return for their one-week checkup. These were all called by telephone, and their families reported

the lesions had healed. One patient was dropped from the study, early, because of adverse reaction to medication.

### STUDY: DESCRIPTION/PROTOCOL

- 102 nonselected subjects, with initial bacteriology as follows: 77% *Staphylococcus aureus*, 9% mixed *Staphylococcus aureus* and *Streptococcus pyogenes*, and 1% beta-hemolytic *Streptococcus*.†
- All patients were given randomized therapy—Tegopen capsules or oral solution, or penicillin V-K tablets or oral solution, in recommended dosages according to body weight.

- All patients were evaluated after one week's therapy. If there was no improvement, therapy was switched to the other antibiotic. The "other antibiotic" proved to be Tegopen 100% of the time because no treatment failures had occurred with Tegopen.
- A final assessment of progress was made two weeks after initiation of Tegopen therapy.

†The remainder, to equal 100%, consisted of 14 patients (13%) who exhibited no initial bacterial growth. These 14 were all healed, whether given Tegopen or penicillin V-K.

# TEGOPEN®

## (cloxacillin sodium)

### -effective therapy for staph infections of the skin and skin structures

#### WARNING:

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines, and corticosteroids.

Safety for use in pregnancy has not been established.

#### PRECAUTIONS:

The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy, appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

#### ADVERSE REACTIONS:

Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose

stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

#### USUAL DOSAGE:

Adults: 250 mg. q. 6h.

Children: 50 mg./Kg./day in equally divided doses q. 6h. Children weighing more than 20 Kg. should be given the adult dose. Administer on empty stomach for maximum absorption.

N.B.: INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR ACUTE GLOMERULONEPHRITIS.

#### SUPPLIED:

Capsules—250 mg. in bottles of 100. 500 mg. in bottles of 100.

Oral Solution—125 mg./5 ml. in 100 ml. and 200 ml. bottles.

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# An added complication... in the treatment of bacterial bronchitis\*



**Summary:** Consult the package literature for prescribing information.

**Indications and Usage:** Cefaclor\* (cefaclor, Lilly) is indicated in the treatment of the following infections caused by susceptible strains of the designated microorganisms:

**Lower respiratory infections:** including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci). Appropriate culture and susceptibility studies should be performed to determine susceptibility of causative organism to Cefaclor.

**Contraindication:** Cefaclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

**Warnings:** IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS TO BOTH DRUG CLASSES (INCLUDING ANAPHYLAXIS AFTER ORAL USE).

Antibiotics, including Cefaclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

**Precautions:** If an allergic reaction to cefaclor occurs, drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., antihistamines, anticholinergics, or corticosteroids. Prolonged use of cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on minor side or in Coombs testing of newborns whose mothers have received cephalosporin antibiotics prior to parturition, it should be recognized that a positive Coombs test may be due to the drug.

Cefaclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended as a result of administration of Cefaclor, a false-positive reaction for glucose in the urine may occur. S has been observed with Benedict's and Fehling's solutions and also with Clinistest® tablets but not with "Tape" (Glucose Enzymatic Test Strip, USP, Lilly). **Usage in Pregnancy:** Although no teratogenic or fertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times maximum human dose, the safety of this drug for use in human pregnancy has not been established. **Benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.** **Usage in Infancy:** Safety of this product for use in infants less than one month of age has not been established.

## Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis\*—are sensitive to treatment with Cefaclor.<sup>1-6</sup>

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Cefaclor.<sup>7</sup>

# Cefaclor®

## cefaclor

Pulvules®, 250 and 500 mg

**Adverse Reactions:** Adverse effects considered related to cefaclor therapy are uncommon and are listed below:

**Gastrointestinal:** symptoms occur in about 2-5 percent of patients and include diarrhea (1 in 70) and nausea and vomiting (1 in 90).

**Hypersensitivity:** reactions have been reported in about 1-5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occur in less than 1 in 200 patients.

Cases of serum-sickness-like reactions, including the above skin manifestations, fever, and arthralgia/arthritis, have been reported. Anaphylaxis has also been reported.

**Other effects:** considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

**Causal Relationship Uncertain:** Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

**Hepatic:** Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

**Hematopoietic:** Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

**Renal:** Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[1030808]

\*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.

**Note:** Cefaclor\* (cefaclor) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

### References

1. Antimicrob. Agents Chemother., 8: 91, 1975
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8. Principles and Practice of Infectious Diseases (edited by G. L. Mandell, R. G. Douglas, Jr., and J. E. Bennett), p. 487. New York: John Wiley & Sons, 1979



Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285  
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## Double fault for weekend warriors

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with

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## meprobamate and ethoheptazine citrate with aspirin) Wyeth

### Twofold analgesic action teamed with time-proven efficacy against concurrent anxiety and tension in patients with musculoskeletal disease.\*

#### EQUAGESIC—Abbreviated Summary

**INDICATIONS:** Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

"Possibly" effective for the treatment of pain accompanied by tension and/or anxiety in patients with musculoskeletal disease or tension headache.

Final classification of the less-than-effective indications requires further investigation.

The effectiveness of Equagesic in long-term use, i.e. more than four months, has not been assessed by systematic clinical studies. The physician should periodically reassess usefulness of the drug for the individual patient.

**CONTRAINDICATIONS:** Equagesic should not be given to individuals with a history of sensitivity or severe intolerance to aspirin, meprobamate, or ethoheptazine citrate.

**WARNINGS:** Careful supervision of dose and amounts prescribed for patients is advised, especially with those patients known to have a propensity for taking excessive quantities of drugs.

Excessive and prolonged use in susceptible persons, e.g., alcoholics, former addicts and other severe psychoneurotics, has been reported to result in dependence on or habituation to the drug. Where excessive dosage has continued for weeks or months, dosage should be reduced gradually rather than abruptly stopped. Since withdrawal of a "crutch" precipitates withdrawal reaction of greater proportions than that for which the drug was originally prescribed. Abrupt discontinuance of doses in excess of the recommended dose is reported in some cases in the occurrence of epileptiform seizures.

Special care should be taken to warn patients taking meprobamate that tolerance to alcohol may be lowered with resultant slowing of reaction time and impairment of judgment and coordination.

**USE IN PREGNANCY AND LACTATION:** An increased risk of congenital malformations associated with the use

of minor tranquilizers (meprobamate, chloridiazepoxide, and diazepam) during the first trimester of pregnancy has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. The possibility that a woman of child-bearing potential may be pregnant at the time of institution of therapy should be considered. Patients should be advised that if they become pregnant during therapy or intend to become pregnant, they should communicate with their physicians about the desirability of discontinuing the drug.

Meprobamate passes the placental barrier. It is present both in umbilical-cord blood and/or near maternal plasma levels and in breast milk of lactating mothers at concentrations two to four times that of maternal plasma. When use of meprobamate is contemplated in breast-feeding patients, the drug's higher concentration in breast milk as compared to maternal plasma levels should be considered.

Preparations containing aspirin should be kept out of the reach of children. Equagesic is not recommended for patients 12 years of age and under.

**PRECAUTIONS:** Should drowsiness, ataxia, or visual disturbance occur, the dose should be reduced. If symptoms continue, patients should not operate a motor vehicle or any dangerous machinery.

Suicidal attempts with meprobamate have resulted in coma, shock, vasomotor and respiratory collapse, and anuria. Very few suicidal attempts were fatal, although some patients ingested very large amounts of the drug (20 to 40 gm). These doses are much greater than recommended. The drug should be given cautiously and in small amounts to patients who have suicidal tendencies. In cases where excessive doses have been taken, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels. Hyperventilation has been reported occasionally. Any drug remaining in the stomach should be removed and symptomatic treatment given. Should respiration become very shallow and slow, CNS stimulants, e.g., caffeine, Mefazol, or amphet-

mine, may be cautiously administered. If severe hypotension develops, pressor amines should be used parenterally to restore blood pressure to normal levels.

**ADVERSE REACTIONS:** A small percentage of patients may experience nausea with or without vomiting and epigastric distress. Dizziness occurs rarely when meprobamate and ethoheptazine citrate with aspirin is administered in recommended dosage. The meprobamate may cause drowsiness but, as a rule, this disappears as therapy is continued. Should drowsiness persist and be associated with ataxia, this symptom can usually be controlled by decreasing the dose, but occasionally it may be desirable to administer central stimulants such as amphetamine or mephentermine sulfate concomitantly to control drowsiness.

A clearly related side effect to the administration of meprobamate is the rare occurrence of allergic or idiosyncratic reactions. This response develops, as a rule, in patients who have had only 1-4 doses of meprobamate and have not had a previous contact with the drug. Previous history of allergy may or may not be related to the incidence of reactions. Mild reactions are characterized by an itchy urticarial or erythematous, maculopapular rash which may be generalized or confined to the groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema and fever have also been reported.

More severe cases, observed only very rarely, may also have other allergic responses, including fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case), and hyperthermia. Treatment should be symptomatic such as administration of epinephrine, antihistamine, and possibly hydrocortisone. Meprobamate should be stopped and reinstitution of therapy should not be attempted. Rare cases have been reported where patients receiving meprobamate suffered from aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia. In nearly every instance reported, other toxic agents known to have caused these conditions have been associated with meprobamate. A few cases of leukopenia during

continuous administration of meprobamate are reported, most of these returned to normal without discontinuation of the drug.

Impairment of accommodation and visual acuity has been reported rarely.

**OVERDOSE:** Two instances of accidental or intentional significant overdose with ethoheptazine citrate combined with aspirin have been reported. These were accompanied by symptoms of CNS depression, including drowsiness and light-headedness, with uneventful recovery. However, on the basis of pharmacological data, it may be anticipated that CNS stimulation could occur. Other anticipated symptoms would include nausea and vomiting. Appropriate therapy of signs and symptoms as they appear is the only recommendation possible at this time. Overdosage with ethoheptazine combined with aspirin would probably produce the usual symptoms and signs of salicylate intoxication. Observation and treatment should include induced vomiting or gastric lavage, specific parenteral electrolyte therapy for ketoacidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia, which, if it occurs, usually requires whole-blood transfusions.

**DESCRIPTION:** Each Equagesic tablet contains 150 mg meprobamate, 75 mg ethoheptazine citrate and 250 mg aspirin.

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\*This drug has been evaluated as possibly effective for this indication.

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#### WYGESIC—Abbreviated Summary

**INDICATION:** For the relief of mild-to-moderate pain.

**CONTRAINDICATION:** Hypersensitivity to propoxyphene or to acetaminophen.

**WARNINGS:** CNS ADDITIVE EFFECTS AND OVER-

**DOSAGE:** Propoxyphene in combination with alcohol

tranquilizers, sedative-hypnotics, or other CNS depressants has an additive depressant effect. Patients taking this drug should be advised of the additive effect and warned not to exceed the dosage recommended. Toxic effects and fatalities have occurred following overdoses of propoxyphene alone or in combination with other CNS depressants. Most of these patients had histories of emotional disturbances or suicidal ideation or attempts, as well as misuse of tranquilizers, alcohol, or other CNS-active drugs. Caution should be exercised in prescribing large amounts of propoxyphene for such patients. See Management of Overdosage.

**DRUG DEPENDENCE:** Propoxyphene can produce drug dependence characterized by psychic dependence and less frequently physical dependence and to tolerance. It will only partially suppress the withdrawal syndrome in individuals physically dependent on morphine or other narcotics. The abuse liability of propoxyphene is qualitatively similar to codeine's although quantitatively less, and propoxyphene should be prescribed with the same degree of caution appropriate to the use of codeine.

**USAGE IN AMBULATORY PATIENTS:** Propoxyphene may impair the mental and/or physical abilities required for potentially hazardous tasks, e.g., driving a car or operating machinery. Patients should be cautioned accordingly.

**USAGE IN PREGNANCY:** Safe use in pregnancy has not been established relative to possible adverse effects on fetal development. INSTANCES OF WITHDRAWAL SYMPTOMS IN THE NEONATE HAVE BEEN REPORTED FOLLOWING USAGE DURING PREGNANCY. Therefore, propoxyphene should not be used in pregnant women unless, in the

judgement of the physician, the potential benefits outweigh the possible hazards.

**USAGE IN CHILDREN:** Propoxyphene is not recommended for children because documented clinical experience has been insufficient to establish safety and a suitable dosage regimen in the pediatric group.

**PRECAUTIONS:** Confusion, anxiety, and tremors have been reported in a few patients receiving propoxyphene concomitantly with orphenadrine. The CNS depressant effect of propoxyphene may be additive with other CNS depressants, including alcohol.

**ADVERSE REACTIONS:** The most frequent adverse reactions are dizziness, sedation, nausea, and vomiting. These seem more prominent in ambulatory than in nonambulatory patients; some of these reactions may be alleviated if the patient lies down. Other adverse reactions include constipation, abdominal pain, skin rashes, light-headedness, headache, weakness, euphoria, dysphoria, and minor visual disturbances. The chronic ingestion of propoxyphene in doses over 800 mg per day has caused toxic psychoses and convulsions. Cases of liver dysfunction have been reported.

**DRUG INTERACTIONS:** Propoxyphene in combination with alcohol, tranquilizers, sedative-hypnotics, and other CNS depressants has an additive depressant effect. Patients taking this drug should be advised of the additive effect and warned not to exceed the dosage recommended (see Warnings).

**CONFUSION, ANXIETY, AND TREMORS:** These have been reported in a few patients receiving propoxyphene concomitantly with orphenadrine.

**MANAGEMENT OF OVERDOSAGE SYMPTOMS:** The manifestations of serious overdosage with propoxyphene are similar to those of narcotic overdosage and include respiratory depression (a decrease in respiratory rate and/or tidal volume), Cheyne-Stokes respiration, cyanosis, extreme somnolence progressing to stupor or coma, pupillary constriction, and circulatory collapse. In addition to these characteristics, which are reversed by narcotic antago-

nists such as naloxone, there may be other effects. Overdoses of propoxyphene can cause delay of cardiac conduction as well as local or generalized convulsions, a prominent feature in most cases of severe poisoning. Cardiac arrhythmias and pulmonary edema have occasionally been reported and apnea, cardiac arrest, and death have occurred. Symptoms of massive overdosage with acetaminophen may include nausea, vomiting, anorexia, and abdominal pain beginning shortly after ingestion and lasting for 12 to 24 hours. However, early recognition may be difficult since early symptoms may be mild and nonspecific. Evidence of liver damage is usually delayed. After the initial symptoms, the patient may feel less ill; however, laboratory determinations are likely to show a rapid rise in liver enzymes and bilirubin. In case of serious hepatotoxicity, jaundice, coagulation defects, hypoglycemia, encephalopathy, coma, and death may follow. Renal failure due to tubular necrosis and myocardiopathy have also been reported.

Ingestion of 10 grams or more of acetaminophen may produce hepatotoxicity. A 13-gram dose has reportedly been fatal.

**TREATMENT:** Primary attention should be given to the reestablishment of adequate respiratory exchange through provision of a patent airway and institution of assisted or controlled ventilation. The narcotic antagonists, naloxone, nalorphine, and levallorphan, are specific antidotes against the respiratory depression produced by propoxyphene. An appropriate dose of one of these antagonists should be administered preferably I.V., simultaneously with efforts at respiratory resuscitation and the antagonists should be repeated as necessary until the patient's condition remains satisfactory. In addition to a narcotic antagonist, the patient may require careful titration with an anticonvulsant to control seizures. Analgesic drugs (e.g., caffeine or amphetamine) should not be used because of their tendency to precipitate convulsions.

Oxygen, IV fluids, vasopressors, and other supportive measures should be used as indicated. Gastric lavage may be helpful. Activated charcoal can absorb a significant amount of ingested propoxyphene. Dialysis is of little value in poisoning by propoxyphene alone. Acetaminophen is rapidly absorbed and efforts to remove the drug from the body should not be delayed. Copious gastric lavage and/or induction of emesis may be indicated. Activated charcoal is probably ineffective unless administered almost immediately after acetaminophen ingestion. Neither forced diuresis nor hemodialysis appears to be effective in removing acetaminophen. Since acetaminophen in overdose may have an antidiuretic effect and may produce renal damage, administration of fluids should be carefully monitored to avoid overload. It has been reported that mercaptamine (cysteine) or other thiol compounds may protect against liver damage if given soon after overdosage (8-10 hours). N-acetylcysteine is under investigation as a less toxic alternative to mercaptamine, which may cause anorexia, nausea, vomiting, and drowsiness. Appropriate literature should be consulted for further information (JAMA 237:2406-2407, 1977). Clinical and laboratory evidence of hepatotoxicity may be delayed up to one week. Acetaminophen plasma levels and half-life may be useful in assessing the likelihood of hepatotoxicity. Serial hepatic enzyme determinations are also recommended.

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# PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

0. 1

JUNE 1981

Dear Colleagues:

Several attempts to begin this first "Newsletter" have proved that there truly are no words which really express the depth of my gratitude for the tremendous honor which you have bestowed on me, by electing me President of the North Carolina Medical Society. You do me great honor by entrusting this Society to my leadership for the coming year.

I shall need your help, your goodwill and your affection. In return, I shall give you my very best effort.

The past two weeks have been exceptionally busy. On May 16 and 17, I attended the Annual Meeting of the North Carolina State Society of the American Association of Medical Assistants, Inc., in Wilmington, North Carolina. As they requested, I attempted to give them an update on political activities as they currently impact medical professionals. Much to my delight, I found them to be extremely well-informed on current events--even on the most recent legislative activities. The beautiful orchid, which they presented me, completely wilted under the fervor of their questions and interest. Many of your employees attended and have probably told you of that Society's excellent continuing education programs.

The on-going session of the Legislature has kept us on the run--while looking over our shoulders! There are many issues now being pondered by our Legislators which impact the practice of medicine. Senate Bill 411 seeks to redefine the practice of chiropractic to include the spine and "other articulations" (the entire body?), physical examinations, laboratory examinations, etc., while declaring "The chiropractic physician is a primary health care provider". The North Carolina Medical Society will take a firm stand! Please call your legislators!

There seems eminent a compromise on the Midwifery Bill, entitled "Proposed Committee Substitute for House Bill 695". The substitute bill embraces a study of the safety and efficacy of out-of-hospital delivery, for a period of two years, to be reported to the 1983 Session of the General Assembly. Present language also states:

"130-187 Regulation of Midwives - No person shall practice midwifery in this State without a permit granted by the Department of Human Resources and under the supervision of a physician licensed to practice medicine. The Department shall issue a permit to only those applicants who possess certification from the American College of Nurse-Midwives and who otherwise demonstrate sufficient training, experience, and good character. No such permit shall be in effect after July 1, 1983."

In mid-June, Don C. Chaplin (Chairman, Committee on Legislation), John L. McCain (Commissioner, Public Relations), Joseph D. Russell (Chairman, Committee on Social Services), Edna M. Hoffman (Chairman, Committee on Aging), and I shall visit with Governor James B. Hunt, Jr., Dr. Sarah T. Morrow (Secretary, Department of Human Resources) and Barbara D. Matula (Director, Division of Medical Assistance). While on this friendly visit, we shall try to learn as much as possible concerning the future of the North Carolina Medicaid Program. Perhaps, by that time, the Administration will have concrete facts concerning the impending budget cuts levied from Washington, D.C., as well as how those cuts in the Medicaid budget will impact health care in North Carolina.

June 5 through June 11, the Delegates and Officers of the North Carolina Medical Society will attend the Annual Meeting of the American Medical Association. As you know, we have two excellent candidates for AMA Leadership. Past-President James E. Davis is a candidate for Vice-Speaker of the AMA House of Delegates while Past-President E. Harvey Estes, Jr., is a candidate for membership on the Council on Scientific Affairs. We believe both our colleagues to be as well qualified as any physicians in the nation for the respective position which each seeks. We wish them success in their ventures and shall surely support each of them in every way possible.


We understand that the Senate Human Resources Committee, chaired by Senator Ollie Harri, has scheduled a hearing on Senate Bill 578, on June 4. SB 578, the Optometric Drug Use Law Repeal, is of major importance to every member of the North Carolina Medical Society. The 1977 bill permits optometrists to prescribe drugs for diagnostic and therapeutic purposes, after "communication and collaboration" with a physician licensed to practice medicine. We believe that this portion of the bill is either poorly understood or ignored because such communication and collaboration is often omitted. In the interests of quality medical care, the responsibility for diagnosis and treatment of serious eye disease must be the responsibility of appropriately trained licensed physicians-ophthalmologists. The Optometric Drug Use Law Repeal Bill was introduced by Senator Hancock (Durham) at the urgent request of the North Carolina Medical Society and the North Carolina Society of Ophthalmology. Successful passage of this bill is dependent on the total support of every physician in North Carolina. If you have not already contacted your Legislators, RUN--DON'T WALK--to the telephone!

Letters of appointments to Commissions and Committees, 1981-1982 are expected to be sent during the week of June 1-5. Delay has been due to the tremendous amount of Headquarters work generated by the Annual Meeting, Legislative activity and the AMA campaigns for Jim Davis and Harvey Estes. I do hope that each physician will accept his/her appointment and help shoulder the load. By working together in unity, we can continue to have the best State Society in the Nation. The Committee Conclave is scheduled for September 23-26, Mid Pines Club, Southern Pines, North Carolina. Please MARK YOUR CALENDAR and plan to BE THERE. We can only succeed if YOU participate! Commission and Committee Listing should appear in the July issue of the North Carolina Medical Journal.

As you can well imagine, the needs and services of the North Carolina Medical Society have undergone the changes of time, society, and technological advance. At the urging of the membership and Headquarters Staff, the Executive Council voted to contract a management study by a nationally known firm, Booz-Allen and Hamilton, Inc., of Atlanta, Georgia. The management study was completed in April 1981. An audio-visual presentation was presented to the Executive Council, Personnel and Headquarters Operation Committee, and the Council on Review and Development on May 6, 1981. A written report was received on May 14, 1981. By direction of the Executive Council, the management study report will be carefully reviewed by the Committee on Personnel and Headquarters Operation. Final results of the deliberations of this committee will be submitted to the Executive Council at its September 1981 meeting. Rest assured, I shall keep you informed of any actions which occur as a result of this management study.

I am writing this letter on Saturday night, May 30, 1981. Having been President exactly three (3) weeks, the deadline for this letter is Monday, June 1. As you see, I've already "toed the mark" and I've tried to relate to you what has transpired during these three weeks. Please let me hear from you as to what type of information you would like to have included in this monthly newsletter. I mean to represent the membership but can only do so if I hear from you. Be active -- PARTICIPATE!

My best to your and your family,

  
Josephine E. Newell, M.D.  
President

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**Precautions** **PREGNANCY:** VERMOX has shown no toxic or teratogenic activity in pregnant rats at single oral doses as low as 10 mg/kg. Since VERMOX may have a risk of producing fetal damage if administered during pregnancy, it is contraindicated in pregnant women.

**PEDIATRIC USE:** The drug has not been extensively studied in children under two years; therefore, in the

treatment of children under two years the relative benefit/risk should be considered.

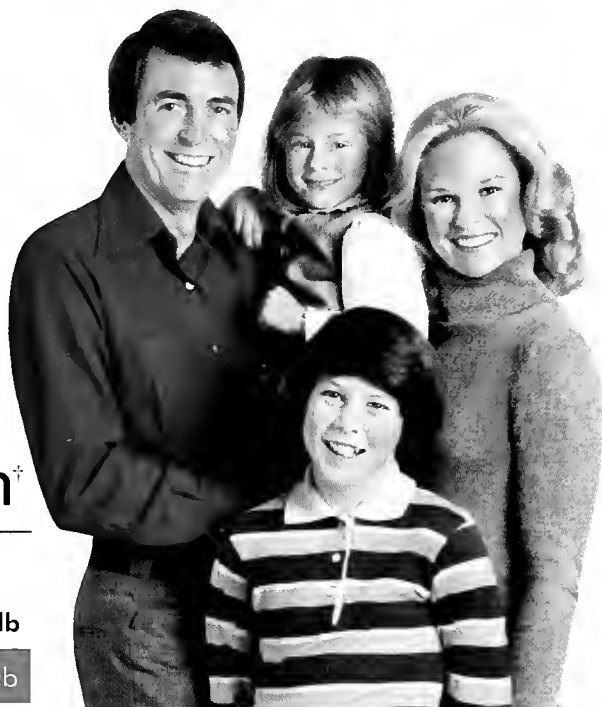
**Adverse Reactions** Transient symptoms of abdominal pain and diarrhea have occurred in cases of massive infection and expulsion of worms.

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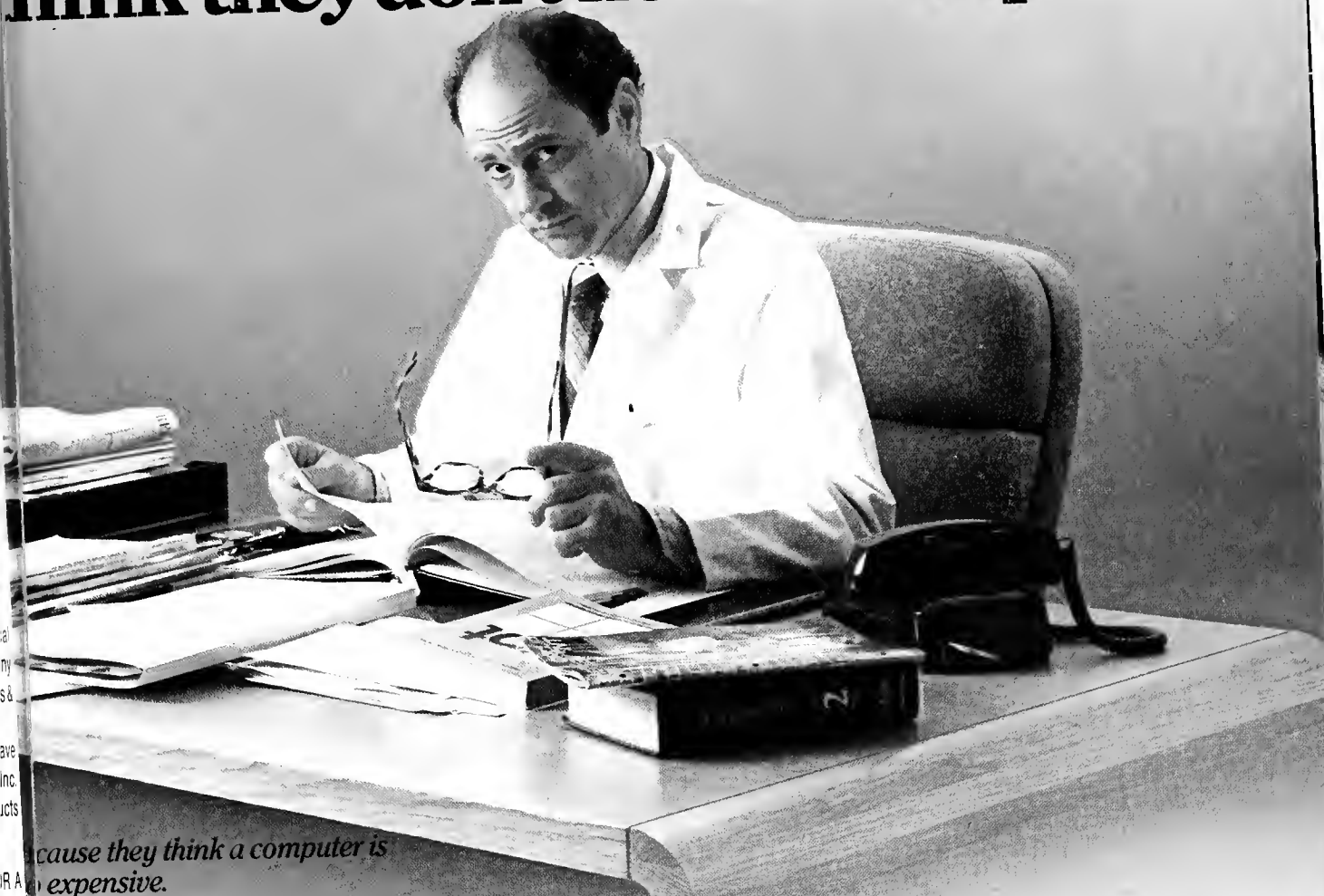
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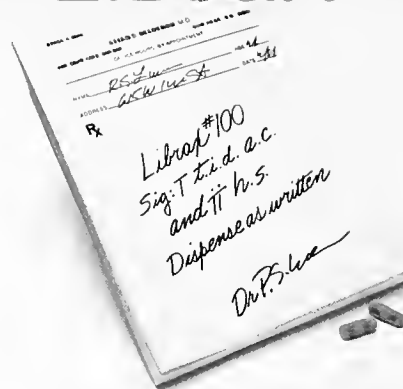
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**Contraindications:** Glaucoma, prostatic hypertrophy, benign bladder neck obstruction, hypersensitivity to chlordiazepoxide HCl and/or clidinium bromide.

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**Precautions:** In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression, suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants, causal relationship not established.

**Adverse Reactions:** No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated, avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered: isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction, changes in EEG patterns may appear during and after treatment, blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, i.e., dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.



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### Brief Summary

**INDICATION:** Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

**CONTRAINDICATIONS:** Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

**WARNINGS:** If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly. **Drug Dependence.** Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. **Use in Pregnancy:** Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. **Use in Children:** Tenuate is not recommended for use in children under 12 years of age.

**PRECAUTIONS:** Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

**ADVERSE REACTIONS:** **Cardiovascular:** Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. **Central Nervous System:** Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache, rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. **Gastrointestinal:** Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. **Allergic:** Urticaria, rash, ecchymosis, erythema. **Endocrine:** Impotence, changes in libido, gynecomastia, menstrual upset. **Hematopoietic System:** Bone marrow depression, agranulocytosis, leukopenia. **Miscellaneous:** A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

**DOSEAGE AND ADMINISTRATION:** Tenuate (diethylpropion hydrochloride): One 25 mg. tablet three times daily, one hour before meals, and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg. tablet daily, swallowed whole, in mid-morning. Tenuate is not recommended for use in children under 12 years of age.

**OVERDOSAGE:** Manifestations of acute overdosage include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phentolamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

Product Information as of January, 1980

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**References:** 1. Citations available on request from Merrell Dow Pharmaceuticals Inc., Cincinnati, Ohio 45215. 2. Hoekenga, M.T. et al.: A comprehensive review of diethylpropion hydrochloride. In *Central Mechanisms of Anorectic Drugs*, S. Garattini and R. Samanin, Ed., New York: Raven Press, 1978, pp. 391-404.



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When using neomycin-containing products to control secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as a failure to heal. During long term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

**PRECAUTIONS:** As with other antibacterial preparations, prolonged use may result in overgrowth of non-susceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

**ADVERSE REACTIONS:** Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section). Complete literature available on request from Professional Services Dept. PML.



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# Rauwolfia Serpentina Revisited

W. R. Walker, M.D., and J. L. Mathis, M.D.

**ABSTRACT** Rauwolfia serpentine and its alkaloids are used in the treatment of mild to moderate hypertension. This medication will produce severe depression in approximately 6% of those receiving it. A careful history of depression in the patient and his family is essential.

WILKINS and Judson described their experiences in the use of Rauwolfia serpentine as an antihypertensive agent in 1953.<sup>1</sup> Rapid acceptance of reserpine, an alkaloid of Rauwolfia, as an antihypertensive agent, alone and in combination followed, as did its use in psychiatric conditions.<sup>2</sup> However, in 1954 Freis reported five cases of severe depression in patients receiving reserpine for hypertension<sup>3</sup> and concluded, not altogether correctly, that the distressing side effect occurred only in patients receiving large doses for prolonged periods.

Many reports emphasizing the depressive potential of Rauwolfia serpentine and its alkaloids appeared in the decade 1955-1965, suggesting an incidence of depression of about 20%. As might be expected, the more severe depressive reactions were less common than milder depressive syndromes. Studies reporting no depression usually involved low doses given too few patients for too short periods of time to be acceptable.

Goodwin and Bunney<sup>4</sup> in 1971 found that approximately 6% of the patients on reserpine could be expected to develop a depression anal-

ogous to that termed "endogenous depression," and concluded that "reserpine, alone or in combination with other factors (such as stress), appears to be capable of precipitating depression in some susceptible individuals rather than being able to induce or produce depression *de novo*."

Thus, reserpine-containing products (Table I) should be used with great caution, if at all, in individuals with a history of or a predisposition to depression. Reserpine's potential for interfering with the intraneuronal binding of norepinephrine and other monoamines in the central nervous system seems to be critical. Norepinephrine, and, possibly, serotonin, freed by this mechanism might lead to deactivation and reduction in quantity of mitochondrial monoamine oxidase. Theoretically this hypothesis is consistent with our present body of knowledge.

Rauwolfia products are used infrequently today, but some clinicians have forgotten they do cause difficulties. A reaction of this severity which occurs in roughly one

of every 16 patients is significant and worthy of reemphasis. Other undesirable side effects — fluid retention, tremor, bradycardia, nasal congestion, gastric hyperactivity — also occur.

Two recent cases illustrate the depressive reactions induced by an alkaloid of Rauwolfia serpentina.

## Case 1

A 56-year-old farmer was referred by his family physician because of inability to concentrate, early morning awakening, loss of appetite, extreme lethargy and fatigue, loss of interest in all activities, including sex, and profound sense of helplessness and hopelessness. The symptoms had increased slowly in severity for about five weeks. The patient had been placed on deserpidine (Harmony<sup>®</sup>) approximately two months before the onset of his symptoms for his moderate hypertension, but depressive symptoms had disabled him. At age 46 he had been hospitalized for about two weeks for severe depression from which he had recovered completely with psychotherapy and antidepressant medication. His mother had been hospitalized at age 50 for a "nervous breakdown" — probably a depressive episode. Since he had responded to a tricyclic antidepressant earlier, he was given the same drug as an outpatient, deserpidine was discontinued, and recovery was complete within a few weeks.

## Case 2

A 66-year-old retired businesswoman, previously very energetic, constantly involved at home and in the community, had lost interest in

**Table I**  
**Prescription Drugs Containing**  
**Reserpine or Deserpidine**

Demi-Regroton	Oreticyl
Diupres*	Rau-Sed
Diutensin-R	Renese-R*
Dralserp	Ruhexatal with Reserpine
Exna-R*	Rygroton
Harmony <sup>®</sup>	Salutensin*
Hydromox	Sandril
Hydropres*	Ser-Ap-Es*
Hydrotensin	Serpasil
Metatensin	SK-Reserpine
Naquival	

\*In combination with a diuretic for use as an antihypertensive agent.

From the Department of Psychiatric Medicine  
East Carolina University School of Medicine  
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Reprint requests to Dr. Walker



all her activities, withdrawing gradually for about two months until she spent most of each day lying on her couch. She was unable to sleep without heavy sedation, had little appetite, was gradually losing weight and spoke of the futility of living. Each day was a burden and nothing gave her pleasure or hope. She had been placed on deserpidine as an antihypertensive agent about six weeks earlier for moderately elevated blood pressure which apparently had returned to normal before she lost interest in living. The physician who prescribed the medication had been her primary physician for 20 years and knew that she had been hospitalized and given ECT for a severe depression when she was 58. He also knew that she had been hospitalized at age 62 for depression after her husband's heart attack. Her only brother had committed suicide a few years before the current episode.

She and her husband desired to stop deserpidine without other treatment, but she failed to improve over the next three weeks. Since

she had responded well to ECT previously, she was hospitalized and so treated again. She made a complete recovery after 12 treatments, but severe depression recurred within one month after she left the hospital. She then received another course of ECT and made an uneventful recovery.

## DISCUSSION

Few of us are immune to forgetfulness, and much of our knowledge needs periodic reinforcement. The busy physician particularly is prone to forget the side effects of medications which are not used frequently in daily practice and may not realize that a prescribed drug may contain reserpine or a related compound. We have seen several cases similar to those described above, so we think that the primary physician should be reminded that it is absolutely essential to take a history of prior depressions before giving a patient a Rauwolfia derivative. The drug is absolutely contraindicated when there is a past history of defi-

nite depression, and it should be used cautiously, if at all, for those with a history of depression in first degree relatives. Both our cases had positive family histories and previous episodes of disabling depression.

Even without a history of depression in the patient or the first degree relatives, it is wise to check each patient on a reserpine-containing medication periodically for signs and symptoms of depression. Specific antidepressant treatment may not be necessary if the offending drug is stopped before the depressive symptoms are well developed. This usually takes several weeks. Once developed, the depression tends to be profound and may not remit without energetic treatment.

## References

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## Heberden's Nodes

What are those little hard knobs, about the size of a small pea, which are frequently seen upon the fingers, particularly a little below the top, near the joint? They have no connexion with the gout, being found in persons who never had it; they continue for life; and being hardly ever attended with pain, or disposed to become sores, are rather unsightly than inconvenient, though they must be some little hindrance to the free use of the fingers. — William Heberden, 1818.



# Intensive Plasma Exchange in Thrombotic Thrombocytopenic Purpura (TTP)

M. Robert Cooper, M.D., and John J. Stuart, M.D.

**ABSTRACT** Thrombotic thrombocytopenic purpura (TTP) is a disease of unknown etiology with a high mortality rate. Plasma exchange is a new technique of therapy associated with an improved patient response. Our experience with three patients treated with plasma exchange and antiplatelet agents is reported. One patient with limited plasma exchange achieved a partial remission and two patients obtained complete remission with more intensive therapy. Frequent and repetitive plasma exchange is an effective therapy for TTP.

**T**HROMBOTIC thrombocytopenic purpura (TTP) is a disease of unknown etiology which has been attributed either to a platelet aggregating factor in the plasma<sup>1</sup> or to a deficiency of prostacyclin,<sup>2</sup> a material in normal plasma known to inhibit platelet aggregation. It is characterized by fluctuating neurological symptoms and signs, microangiopathic hemolytic anemia, thrombocytopenia, renal disease and fever and is associated with a wide spectrum of laboratory and clinical manifestations which vary in intensity but which invariably follow a fulminating clinical course. Within three months of diagnosis, 80% of untreated patients die.<sup>3</sup>

Although numerous therapeutic approaches, including splenec-

tomy, corticosteroids, dextran<sup>4</sup>, antiplatelet agents<sup>5</sup> and plasma transfusions<sup>6</sup>, have been tried, remissions have only rarely been achieved. Cuttner<sup>7</sup> has combined splenectomy with corticosteroids, average molecular weight dextran and antiplatelet agents with favorable results, while seven of eight patients recently treated by exchange plasmapheresis and administration of antiplatelet agents achieved complete remission<sup>8</sup>, a reverse of the previously noted mortality rate.

Plasma exchange specifically refers to the removal of plasma with the return of plasma or a plasma equivalent to the same patient. New equipment allows the removal of large amounts of the patient's plasma in a relatively short time.

We report our experience with three patients who have presented to our Pheresis Unit during the last 12 months with typical thrombotic thrombocytopenic purpura and who have been treated by plasma exchange.

## METHOD

Each plasma exchange was accomplished using an IBM #2997 Blood Cell Separator. We remove 2000 cc of the patient's plasma and give 1000 cc of normal saline, 1000 cc of fresh frozen plasma and 50 g of albumin as replacement. Approximately two hours is required for each plasma exchange.

Clinical and laboratory findings in our three patients and their responses to therapy are presented in Table 1. Patient #1, a 26-year-old

black female, presented with the classical findings of thrombotic thrombocytopenic purpura with severe chest and epigastric pain as major clinical manifestations. After she received plasma transfusions with no benefit a plasma exchange on the fifth hospital day led to immediate improvement, with prompt relief of pain. Plasma exchanges were repeated on days 9 and 17 with transient clinical improvement. Additional therapy and immunosuppressive agents, steroids, antiplatelet agents and splenectomy resulted in continued improvement.

Patient #2, a 27-year-old black female, presented with disorientation rapidly progressing to coma. Plasma was exchanged daily for three days followed by an exchange every other day for four additional exchanges — a total of seven exchanges. Clinical improvement was first observed on the fifth hospital day after the fourth plasma exchange. A complete remission was achieved.

Patient #3, a 35-year-old white female, progressed to profound coma with seizures and decerebrate posturing. Clinical deterioration continued during the first three plasma exchanges and therapy was maintained with daily plasma exchanges. Improvement was not observed until after the fifth exchange. Due to her precarious clinical condition, 13 exchanges were done over 18 days. A complete remission was achieved. Renal failure with a serum creatinine of 9.3 mg/dl was a major complication requiring re-

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**Table I**  
**Three Patients With Thrombotic Thrombocytopenic Purpura**

Patient	Age/Sex	Preexchange					Neurologic Findings	No. of Plasma Exchanges	Duration of Therapy	Response	Concomitant And/Or Subsequent Therapy
		HGB*	PLT**	LDH	MAHA***	CR****					
1	26/F	7.3	20,000	2250	+	1.7	Lethargy	3	31 Days	PR† 3 mo CR‡ 17 mo	Corticosteroids, Antiplatelet Agents, Immunosuppressive Therapy, Splenectomy
2	27/F	9.9	7,000	3894	+	3.0	Coma	7	9 Days	CR 6+ mo	Antiplatelet Agents
3	35/F	8.5	40,000	1780	+	9.3	Coma With Decerebrate Posture And Seizures	13	18 Days	CR 3 mo	Antiplatelet Agents

\*Hemoglobin (g/dl)

\*\*Platelets/ul

\*\*\*Microangiopathic Hemolytic Anemia

\*\*\*\*Creatinine (mg/dl)

†Partial Remission

‡Complete Remission

petitive peritoneal dialysis. Both plasma exchange and peritoneal dialysis were used concomitantly without complications.

### DISCUSSION

Our limited experience with these three patients suggests that plasma exchange may be a very effective treatment even if the clinical course of TTP is fulminating. The limited response of Patient #1 to an occasional plasma exchange suggests that intensive daily treatment may be indicated during the initial phase of the illness and should be continued until there is clinical improvement. Following clinical stabilization or improvement, plasma exchange should continue every other day until the platelet count and serum lactic dehydrogenase

concentration (LDH) have returned to normal and clinical signs and symptoms have resolved.<sup>9</sup> Myers' seven patients whose TTP went into complete remission<sup>8</sup> averaged eight plasma exchanges each with a maximum being 10 over a 30-day period. Our experience with Patient #3 indicates that the critically ill may require more intensive and prolonged plasma exchange.

Although plasma exchange appears to be effective for the management of a disease associated with a high fatality rate, the role of adjunctive antiplatelet therapy is unclear. Each of our patients received aspirin and dipyridamole initially and has continued to take these drugs. We recommend the use of both plasma exchange and antiplatelet agents for thrombotic throm-

bocytopenic purpura. A controlled clinical trial of plasma exchange with and without antiplatelet agents will be necessary to assess the value of these drugs.

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# Office Psychotherapy: Methods and Indications for Referral

John Ingram Walker, M.D.

**ABSTRACT** Well designed studies have demonstrated that psychotherapy decreases psychiatric hospitalizations and reduces the cost of medical care for patients with emotional disorders. Acutely psychotic or suicidal patients as well as those who fail to respond to supportive psychotherapy can benefit from referral. Patients who display extreme dependency, passive-aggressive tendencies or hostility to authority figures do well in group therapy. Those with unconscious sexual or aggressive conflicts benefit from psychoanalysis. Patients with habit disturbance respond to behavior modifications.

**M**ORE than 70 well-designed studies have demonstrated the effectiveness of a wide variety of individual and group therapies when compared to control groups.<sup>1</sup> A study<sup>2</sup> covering just over 1,000 patients found that 81% of those treated with intensive psychotherapy had no recurrence of their illness during the five year period following treatment; these patients showed symptomatic relief, subjective improvement, and favorable personality changes. Moreover,

medical as well as psychiatric hospitalizations were drastically reduced among the patients who had received intensive outpatient therapy with a pre-treatment rate of 5.3 days per year to a post-treatment rate of 0.78 days per year. In a study by Jameson, Shuman and Young,<sup>3</sup> Blue Cross records of 136 patients who used outpatient psychiatric benefits over a 48-month period were analyzed. Results indicated that the average cost of medical and surgical care dropped from \$16.47 per patient per month before outpatient psychotherapy to \$7.06 after treatment. It is beneficial, then, for the primary physician to be familiar with psychotherapy techniques and be well informed about the various modalities of psychotherapy to make an appropriate psychiatric referral. A previous article<sup>4</sup> discussed some of the basic techniques of supportive psychotherapy; this article reviews the major schools of psychotherapy to help the generalist decide which patient is likely to respond best to which type of therapy.

Those patients who fail to respond to supportive psychotherapy as well as acutely psychotic and suicidal patients should receive psychiatric referral. Patients with severe personality disorders may benefit from group therapy; those with unconscious sexual or aggressive conflicts can be helped with psychoanalysis; phobic patients and patients with obsessive-compulsive rituals do well with behavior modifications. Patients with habit distur-

bances may benefit from hypnotherapy.

## GROUP PSYCHOTHERAPY

Group psychotherapy offers a model of self-disclosure, contact and intimacy while allowing an individual to learn that others have the same fears, angers and wishes that he does. In general, patients with personality problems do better in group therapy than in individual psychotherapy. More specifically, patients who display extreme dependency, passive-aggressive tendencies, hostile reactions to authority figures or distorted positive feelings toward the physician do better in group therapy because the group is able to diffuse the intensity of the patient's demands while confronting the patient's behavior. The patient's distorted views of others is more easily displayed and more clearly challenged in a group. Patients who have difficulty with interpersonal relationships and who tend to act out feelings are excellent candidates for group psychotherapy.

A patient who is referred for group therapy must have some degree of impulse control, be motivated to change and have enough reality testing to make general sense of the group activity. Patients with organic brain syndrome, paranoid ideation, antisocial characteristics, extreme somatization, acute mania, suicidal depression and active psychosis are not good candidates for group therapy.

Although no iron-clad rules pre-

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vail, most groups meet once a week for 1½ to 2 hours. The optimal number of group members is generally seven or eight. Therapy groups appear to do better when they are heterogeneous and balanced so that there are an equal number of both sexes and the patients should be in the same age range. Used appropriately, group therapy is an effective therapeutic modality.

Varieties of group therapy abound — encounter groups, sensitivity training groups, supportive groups, analytically oriented groups, transactional groups, and behavioral groups, to name a few. Hawkins and White<sup>5</sup> have pointed out that regardless of what groups are named they can be divided into three basic models: (1) therapy-by-means of the group, (2) therapy-in-the-group, and (3) therapy-with-the-group.

*Therapy-by-means-of-the-group.* This type focuses the attention on the group as a whole rather than on individuals. Characterized by minimal structure with little recognition of individual needs, this model provokes a great deal of uncertainty in the members and requires patients with egos capable of tolerating anxiety.

*Therapy-in-the-group.* In this type the leader interacts with one patient at a time, ignoring group process and group interactions. Transactional analysis, gestalt and behavioral therapy are included in this type of group.

*Therapy-with-the-group.* Also known as interactional group therapy, this model focuses both on individual concerns and group issues. Interactional group therapy offers the individual a chance to examine his interactions with the help of the other members and the group leader. The individual is able to learn and practice techniques for successfully relating to others while exploring intrapsychic issues.

## PSYCHOANALYTIC THERAPY

Psychoanalytically oriented psychotherapy, dynamic psychotherapy, insight psychotherapy and uncovering psychotherapy are all based on psychoanalytic theory first

proposed by Freud, who learned that patients could overcome inner obstacles to remembering if they were allowed to discuss whatever came to mind without regard to logic or decency. He named this technique free association. Helping the patient gain insight and adjustment by analyzing and interpreting what the patient said and did became known as psychoanalysis. Psychoanalytic therapy seeks to remove symptoms, alter maladaptive personality traits and improve the patient's relationships with others by helping the patient unravel unconscious conflicts.<sup>6</sup>

Psychoanalysis is lengthy (four 45-minute sessions weekly for three to five years or longer) and costly (\$50-\$60 or more a session). Nevertheless it is of great benefit to psychologically-minded patients who have the capacity to form warm relationships with other people but are plagued with neurotic conflicts.

## BEHAVIOR THERAPIES

Behavior modification (commonly employed in obesity and anti-smoking clinics) uses learning theory to eliminate symptoms and change behavior.<sup>7</sup> The primary physician uses many types of behavior therapy, often unwittingly, in daily office practice.

*Extinction.* Nonreinforcement of behavior is often more effective in eliminating behavior than is punishment or criticism. Bad behavior gradually goes away when it is ignored. It may be helpful, for example, to ignore a child's temper tantrums.

*Shaping.* New behavior can gradually be learned by reinforcing with praise, tokens or prizes each small step required to master new patterns. For example, patients can develop the habit of taking their medications by the physician's favorable comments when they do so.

*Systematic desensitization.* After being taught a deep form of muscular relaxation, the patient, gradually exposed to a hierarchy of imaginary scenes starting with those producing mild anxiety and progressing to those associated with severe anxiety,

becomes reconditioned to specific anxiety-producing situation. This procedure can be used to treat phobias, but more practically the physician can help desensitize the patient to such things as traumatic office procedure, hospitalization and surgery.

*Hypnotherapy.* Hypnosis, inducing an altered state and consciousness, can be used to modify habit disturbances such as overeating, smoking and poor study techniques. It is also effective in reducing chronic pain and alleviating anxiety. Although useful and easy to learn (several good continuing education courses are available for the physician who is interested), hypnosis is time consuming. It is closely related to, but differs from, biofeedback and progressive muscular relaxation.

*Biofeedback.* Biofeedback, a method to provide a patient with knowledge of internal body processes by using electronic instrumentation, has been used in the treatment of low back pain, hypertension, cardiac arrhythmias, tension and migraine headaches, and various other medical conditions.<sup>8</sup> Feedback devices convert information such as heart rate, muscle tone and brain waves into light or sound signals which can be monitored by the patient. With practice, individuals may be able to change automatic functions of the body by altering feedback signals. Biofeedback can help relieve pain by aiding the patient's voluntary control over muscle spasm or blood flow.

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# Toxic Encounters of the Dangerous Kind

## PCP

Phencyclidine, "animal tranquilizer," "superweed," is probably best known by the name "angel dust." It really should be renamed "devil dust," for it is currently the drug menace in the United States and may be potentially the worst "street" drug to date. It is very versatile and can be smoked, snorted, taken orally or "mainlined." It can be easily synthesized by amateur chemists.

If you have not seen a case of PCP overdose you probably will, for this substance has already worked its way in the Southeast. Many of your patients who are "into drugs" are getting PCP whether they want it or not. Although many ask for it as their "high" of choice, others get it when they ask for something else. It is one of the most commonly misrepresented drugs — most commonly as THC, the active ingredient of marijuana, but also as LSD, cocaine, mescaline and amphetamines. Recent studies show that when a variety of street drugs are analyzed, up to 50% of them are found to be PCP.

You can recognize a PCP intoxication (especially in teenagers) in an emergency room by an awful quartet of features: (1) convulsions (2) combativeness (3) catatonia and (4) coma; patients often present as acute paranoid schizophrenics. They have enormous strength and unbelievable paranoid reactions. They literally feel no pain — PCP is classified as a dissociative anesthetic. Approach them with great caution; they commonly commit suicide or homicide when in the paranoid state.

*In low doses* the drug (which is most commonly smoked) produces a state similar to alcoholic inebriation with euphoria and a feeling of numbness. On examination there is a blank stare, incoordination, loss of response to pinprick and hyperacusis. *A moderate overdose* causes coma with the eyes open (a big diagnostic clue), vertical and horizontal nystagmus, hypertension and hyperre-

flexia. *High dose* PCP produces coma, hypertension, seizures, shivering, opisthotonus and decerebrate posturing. The diagnosis generally is made clinically. Thin layer of gas chromatography can confirm the diagnosis.

Management of a PCP overdose can be tricky and frustrating. Low dose patients usually only require a low sensory input environment including ear plugs. Do not attempt to "talk these patients down." Do not use restraints as rhabdomyolysis and renal failure can ensue. Acidification increases urinary excretion of PCP as it shifts PCP from the tissues (e.g., CNS) into the extracellular fluid and then urine. This can be accomplished by cranberry juice and ascorbic acid in the not so severe cases and by ammonium chloride in the more severely involved. The seizures should be treated with diazepam or paraldehyde (do not use barbiturates as they can produce CNS depression and hypotension in this poisoning). The hypertension can be severe and diazoxide (Hyperstat) is the drug of choice. For acute agitation it is safer to use haloperidol; phenothiazines in the acute stages can aggravate the CNS symptoms.

Think of "devil dust poisoning" especially in teenagers or young adults who present as acute schizophrenics with extreme paranoia and exhibit weirdly distorted sensory perceptions, nystagmus, marked hypersensitivity to noise and light, and hypertension. (It has recently been reported that just being in a room where this drug is being smoked can poison a preschool child.)

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## NORTH CAROLINA MEDICAL CURIOSITIES

### MODERN BEARDED LADY

A bearded lady who is well remembered by frequenters of circuses and dime museums was Lady Olga. Few side-show personalities appeared before the public for as long a period as Lady Olga did. She made her first appearance when she was four years old. Sixty-five years later she was still going, having appeared with the Ringling Brothers, Barnum & Bailey, Hagenback-Wallace, Forepaugh-Sells, Royal American shows and many others. In 1932 she acted in Tod Browning's film, "Freaks," where she naturally played the role of the bearded lady.

Lady Olga was born Jane Barnell in Wilmington, N.C., in 1871. Her father George, a Jew from Russia, was a repairer of wagons by trade. Her mother was part Irish and part Indian. From the moment she was born, Jane, with her down-covered face, was recognized as an oddity. The down showed no signs of disappearing and by the time she reached her second birthday she possessed markings of a beard. Her mother, who was not an educated woman, was sure someone had put a curse on the child. Jane's father was less troubled by her appearance and treated her with greater affection than her mother did. Jane was four when her mother, while her father was out of town on business, took her to the circus and came home without her. The Great Orient Family Circus had pulled into Wilmington and she was traded to them. The family who ran the circus had dark skin and Jane thought that they were foreigners. Everyone took part in the show: the son did tricks on the tight-rope, the daughters entertained with dances and the mother was a snake charmer. Since they did not have a bearded lady or a bearded girl, the family took Jane under their wing and treated her with affection.

When Jane's father got home from his business trip, she had been gone for weeks. Frantic, he appealed to the police for help in finding his missing daughter. North Carolina and the surrounding states were searched but Jane and the Great Orient Family Circus had vanished.

In a large southern city, the circus family sold its wagon and then embarked for Europe. Jane, the starlet of the ensemble, accompanied them. The circus was playing in Berlin when Jane, who was five, came down with a serious illness. The Great Orient Family, despairing for her life, took her to a hospital. By the time she recovered they had left the city and she ended up in an orphanage. However, the little bearded girl was eventually found by her father and for the lonesome child there was an unforgettable reunion. Bar-

nell took her back to the United States and she went to live not with her unloving mother but with her grandmother on a farm in North Carolina. There she fed the chickens and did all the other chores required of a farm girl.

When she reached the age at which boys begin to shave, she did too. But her beard required much more frequent shaving than theirs. A neighbor of Jane's grandmother, a farmer named William Heckler, was a professional strong man in a circus part of the year. He informed Jane that the beard was nothing to be ashamed of and instead of shaving it off she should allow it to grow and cash in on it. Life on the farm had become less exciting for Jane, and Heckler's arguments carried conviction. She allowed him to introduce her to his friends in the John Robinson Circus and in 1892, when she was 21, she went to work for them.

The circus opened a whole new world for Jane. Color, noise and excitement surrounded her. She began to keep company with a musician who played in the band and discovered that with the right man a beard was no barrier to true love. The couple were married and had two children. Neither of the children lived long and her husband also passed away.

Circus life lost its glitter for her after the death of her husband. She became restless and drifted from one circus to another. She married another circus man but he lost his life in an accident. Jane's third marriage ended in divorce. A year later she fell in love with a circus clown, Thomas O'Boyle, some 21 years younger than she. They were married in 1931 and he later became a barker and took a job at a dime museum when Jane was appearing there.

In April, 1938, Ringling Brothers opened in New York. Olga, in her 60th year by then, was asked if she would join the Easter Parade on Fifth Avenue. She replied, stroking her beard: "I most certainly will not parade on Fifth Avenue — somebody might mistake me for a Supreme Court judge. But I might give my beard some extra curling for Easter." That was Olga's last year with the circus.

In her long career, Olga had changed her professional name several times. First she was Princess Olga, later Madam Olga, and finally — a more distinctive title — Lady Olga.

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# Editorials

## HELIOTROPISM

When an organism responds to a stimulus by reaching toward it, tropism occurs, phototropism when the source is any light and heliotropism when sunlight beckons. In the spring this phenomenon is demonstrated over and over again as flowers strain toward the sun, but in man it is less easy to recognize. Northern Europeans have through the centuries been said to seek the South, a yearning anyone who has spent a winter in Germany or Scandinavia can easily appreciate. Spring in medieval Western society was marked by pilgrimages to shrines, as if the search for light had been incorporated into religious practice. After all had not Mithraism, a masculine cult of sun worshipers, been a strong rival to Christianity in the Roman era, taking the seventh day as sacred and celebrating the birth of Mithras at the winter solstice in late December? Roman soldiers on the Persian frontier had learned of Mithras, son of the Zoroastrian god of light, Ahura Mazda, later memorialized in a light bulb and an automobile, and had spread the new faith to the Western ends of empire, Hadrian's Wall.

It would perhaps have come as little surprise to the followers of Mithras that the earth revolved about the sun, difficult as it was for the ancient papacy to accept the notions of Copernicus and Galileo. Other religions had retained for light a prominent role in their rituals and even Christianity had incorporated the rising sun at Easter as a symbol of resurrection. In fact notions about mystic light have permeated almost all ancient theologies, light being, as the antithesis to darkness, the state of holiness or transcendence.<sup>1</sup>

Internal heliotropism then must have been the state sought by priests and worshipers in ancient and even recent times. Wellman<sup>2</sup> has suggested that Indian shamans under the influence of jimsonweed were responsible for polychromatic rock paintings in California and for similar works in the lower Pecos River region in Texas where mescal was the sacred hallucinogen of choice. Interestingly the Chumash Indian cave paintings in California contain striking images of the sun disc with radiation and sunburst effects.

Since hallucinations seem to be much alike from person to person and from culture to culture, it may be that the potential for perceiving the inner light is an established feature of the central nervous system. An accepted psychiatric definition for hallucination — "A false sensory perception in the absence of an actual external stimulus" — may not be satisfactory because the external stimulus may have been remote,

or at least not immediate, and transformed in the brain so as to be unidentifiable by the examiner. The trouble comes with defining false. Some assert the true facts as if false facts exist and have received equal time. One need only read of Joan of Arc to appreciate how complex is the nature of internal reality and how it may lead someone into conflict with custom, authority and the true facts.

This difficulty in defining the nature of internal reality may be one of the critical factors in our present day concern about street drugs used for recreation as if achieving the inner light were considered entertainment rather than a transcendent experience. When drug use was limited to the initiated — the shaman, the priest and perhaps the congregation and cult on certain sacred occasions — there was no problem because these practices were accepted as valuable and even redemptive by society. The sanction of tradition makes all the difference it seems. When the artist or the writer uses hallucinogens to enrich imagery the practice has often been acceptable too if the result — the painting, the poem, the story — appeals.

Plants used in sacred or magical ceremonies must contain psychoactive agents and are legitimate targets for pharmacologic investigation but an appreciation of their historic usage may be equally important if social controls are to be maintained. There is indeed a rich literature in ethnopharmacology recently reviewed extensively by Díaz<sup>3</sup> who distinguishes six families of sacred plants by their effects: visionary, imagery-inducing, trance-inducing, deliriant, neurotoxic and excitatory. By characterizing the members of these families chemically and pharmacodynamically, our understanding of how the brain acts as mind, already broadened by the revelations of the endorphins, should be greatly enhanced.

Hallucinogenic effects are not limited to natural compounds; the laboratory has contributed several in recent years as hypertension has been attacked centrally as well as peripherally. Reserpine from the ancient Indian snakeroot recaptured from the ancient Vedanta pharmacopeia served to focus attention on cerebral involvement in hypertension and synthetic compounds have followed in abundance. Clonidine<sup>4</sup> and propranolol have been identified as occasional hallucinogens and levodopa<sup>5</sup> has recently been added to that circle.

Some note must also be taken of form and color which may be of almost equal importance in sacred imagery and in artistic vision. We need only to turn to

the most common pharmacologic disturber of vision, digitalis, to appreciate the spectrum of change in light, form and color inducible by a compound finding its appropriate receptor and activating it. Withering investigating "the cure of the dropsy . . . long . . . kept a secret by an old woman in Shropshire" observed that overdosage with the foxglove caused changes in color vision which disappeared when the drug was stopped. Volpe and Soave<sup>6</sup> have recently described a patient seen because of "repetitive formed visual hallucinations — butterflies, birdhouses and Confederate soldiers" and two others with similar symptoms all attributable to digitalis and Lee<sup>7</sup> has suggested that some of Van Gogh's remarkable artistic imagery may represent externalization of hallucinations in form and color caused by digitalis intoxication. The Starry Night perhaps representing such a phenomenon on canvas. Digoxin toxicity can even be quantified using the Farnsworth-Munsell 100-Hue test, color vision scores correlating well with plasma digoxin concentrations and the effects of cardiac glycosides on cation transport in the erythrocytes of victims.<sup>8</sup>

Thus all peoples seem to seek the light as if the quest were coded in our genes. For most of recorded history the inner light has seemed to represent absorption in the sun, the cosmos or the infinite depending on the belief of those who have seen that light. Even today heliotropism is with us as more secular pilgrimages to the beaches and to ultra-violet lights in bathrooms demonstrate. It is too early to know what changes in psyche or genes offices without windows will provoke. Fluorescent, incandescent and neon lights do not appear to be adequate substitutes for the sun. At least, they are pallid dieties hardly capable of competing with the sun as stimuli for physical or theological responses and in the long run they won't be as cost effective either.

J.H.F.

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### "WHAT IS THE MONETARY VALUE OF HUMAN LIFE?"

One of the conflicts about medicine in modern society lies in differing views of the roles of physicians. To many, particularly to the doctor himself, that role is primarily one of identifying the cause of the complaint and devising treatment. Whether the sickness is organic or psychosomatic is irrelevant in this context because most patients accept reassurance or cure with equal enthusiasm when they feel better long enough. For others the doctor is expected to be a

maintenance man — to assure physical, spiritual, cultural and even economic health. But preparation for the latter role can't be come by in modern medical schools which are busy enough with patient care and demanding enough of medical students as it is.

This situation has evolved since the Hill-Burton Act of 1946 which started the hospital on the road to becoming the modern cathedral. Yet, whereas, the ancient cathedral existed primarily for the maintenance of spiritual health and played a less prominent nosocomial role, keepers of today's temple tend the sick body and concern themselves little with preventive mental maintenance. To remedy this deficiency, which is viewed by some as something definable and susceptible to regulation, Congress in 1974 passed the National Health Planning and Resource Development Act. Such a move was, as Diseker<sup>1</sup> has pointed out, toward regulation and away from incentive. Regulation, however, is costly and proposes to exclude and to limit while incentive demands that risks be taken and that the investigator must sometimes follow his hunches rather than his protocol. Since each new patient is in a sense a new experiment, it is easy to see why practicing physicians are frequently unhappy with regulation and respond to incentive.

These movements suggest that we are fumbling our way to a new medical system to meet needs presently unsatisfied just as earlier western society found nosocomia insufficient and evolved better methods. One of the problems which was perhaps unanticipated in 1974 by the authors of Public Law 93-641 is inflation contributed to in large measure by unproductive government spending. Such inflation necessitates that even more careful attention be focused on current costs and results than in the past. But to measure value received, we have to have some idea of what we need as well as what we want and what we can have. To know what we can have, we have to know what resources are available. Therefore, Congress in its infinite wisdom has decreed that we have Health Systems Agencies (HSA) which will offer Annual Implementation Plans (AIP) which will be acted upon. Action of course depends on resources so that the AIP becomes a sort of architect's sketch of an HSA's vision. Whether the vision can be realized depends on money and whether it should be is another matter entirely.

In all this turmoil goals are set, suggestions made and definitions offered. Yet one essential question is avoided perhaps because it sounds callous and because it demands a reexamination of our goals and a dispassionate assessment of our resources. The question would have been of little significance in medieval times because resources were primarily agricultural and spiritual. In our industrial and commercial civilization, it is necessary that the question "What is the monetary value of human life?" be asked because it is the heart of our ratiocinations. Card and Mooney<sup>2</sup> have dared to ask this question about the National Health Service in Britain and have pointed out that resources for health service can never be unlimited. Therefore, aspirations based on non-monetary values

will always come in conflict with those based on acquisitiveness and monetary measures. Resolution of this conflict can never be final because the results of research cannot be predicted. Thus we need mechanisms built into all protocols and even into ALPs to allow dynamic diversions if we are to improve the quality and quantity of health care.

As a result of these maneuvers toward a more flexible and effective system, some feel that regulation is stifling incentive and increasing cost. Some of our difficulties arise because we can no longer base our projections on costs determined by the natural history

of disease. Given our inflationary fiscal background, our adventures in cancer chemotherapy, our program in end-stage renal disease, our efforts to cope with the mixed blessings of *Nicotiana tabacum* and our uncertainty about what to do about the consequences of industrial and non-industrial chemical exposure, emphasize that the physician must sometimes be more than a therapist for specific problems.

J.H.F.

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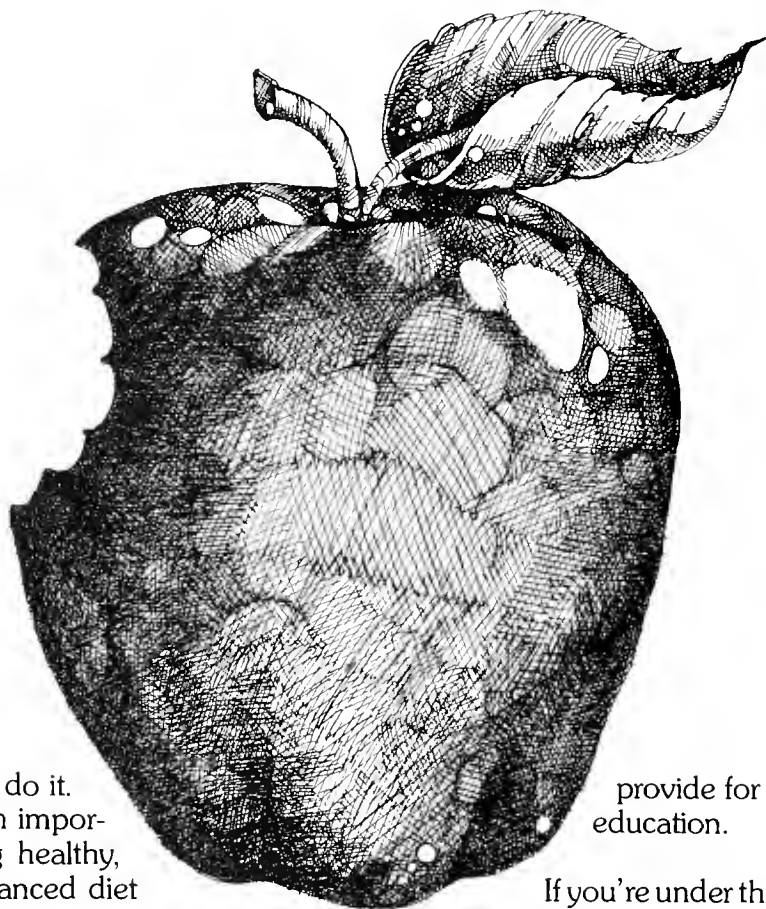
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If you're under the age of 55 and are active full time in your practice, simply fill out the coupon below and return it today. Mutual of Omaha, underwriter of this plan, will provide personal, courteous service in furnishing full details of coverage. Of course, there's no obligation.

**Mutual of Omaha Insurance Company**  
Mutual of Omaha Plaza  
Omaha, Nebraska 68175

Please provide me complete information on the Disability Income Protection Plan available to members of the North Carolina Medical Society who are under age 55.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_



*People you can count on...*

Life Insurance Affiliate: United of Omaha  
Mutual of Omaha Insurance Company  
Home Office: Omaha, Nebraska



By: Greg Korneluk  
Program Director, AMA  
Department of Practice Management

Would you put a leach on a patient to cure the flu? Of course not! Such a procedure may have been considered good practice in the 19th century but it is totally inappropriate today. Similarly, while the four-drawer filing cabinet modernized the 19th century physician's office, it's so outdated today that it can seriously impede office efficiency. You'll find your filing process more convenient and economical if you rid your office of the antiquated four-drawer system and replace it with the new open-shelf, color-coded, lateral filing method.

### Why Convert?

- In most offices staff salaries account for 15 percent of gross practice revenues. In other words, staff time is expensive. With a four-drawer filing cabinet, a great deal of this expensive staff time is being spent opening and closing drawers in the filing and retrieval process. With lateral filing systems the medical assistant does not need to open and close the drawer every time a file is pulled or refiled, because the open view and color guides her to the correct spot as she approaches the file.
- It has been estimated that it costs approximately 17 cents to file a chart and \$65 to find a misfiled chart. Medical practices that utilize the color coding mechanism have proven that misfiles are drastically reduced with color coding.
- Files which are not color coded take considerably longer to file and retrieve.
- Rental space accounts for five percent of gross practice revenues in most areas. Four-drawer filing cabinets take up 50 percent more space than open-shelf lateral files. This space can usually be utilized more effectively for other purposes.

### How to Convert

- *Institute open-shelf filing.* Open-shelf lateral filing can be easily compared to a bookshelf. Files

# Effective Records Management

are lined up on an open shelf to a height of approximately eight feet from the floor. The name or number appears on an end tab which is easy to scan, much the same way you might scan the title that appears on the spine of a book. Thus open shelves can accommodate two to three feet more files in height than a four-drawer cabinet, and the shelves are better space savers than drawers.

- *Use section dividers.* A section divider is a thick cardboard or plastic file divider with an end tab or top tab that marks the beginning of a section. If you are filing alphabetically, you probably will have three to five section dividers per letter in the alphabet. The section dividers serve to single out those areas in which the largest number of files are situated. For example, if you had 20 or 30 patients with the last name of Johnson, you might want to implement a special section divider for that last name. In this way, you are limiting the file search for "Johnson" by going straight to a section divider. Naturally, the section dividers should be customized to the alphabetic breakdown of patient names in your practice. Section dividers can be purchased for about 20 cents each.

- *Color code your records.* It's an inexpensive technique used to limit the file search and consequently saves staff time. In most systems eight basic colors are used. For example, first, you'd affix a half inch red band to the tab of all "A" files. Next, you'd select another color like orange to all the "B's" and so on until each of the eight colors are used and you begin again with red. Most offices will code the charts by the first two letters of the patients last name. Consider the name "Johnson" as an example. Assume that the color blue represents the letter "J" and the color yellow represents the letter "O". Therefore, "Johnson's" chart will have 2 colors—blue and yellow.

Color coding can also be effectively utilized in numerical systems to limit the file search and eliminate misfiles.

- *Use out-guides.* An out-guide is a larger colored file, usually thicker cardboard or plastic

which is colored yellow or blue for easy recognition. When a medical record is pulled off the shelf, an out-guide can be inserted in the file's place. When the medical assistant refills the chart, she can zero in on the general area of the file and then look for the out-guide. This too, reduces refiling time.

- Consider out-guides with plastic pockets so that letters, reports, or miscellaneous paper can be filed in the out-guide on a daily basis. In this way, the general refiling of routine reports will not be disrupted if the file is not on the shelf.

Out-guides can also be purchased with a pre-printed log. On this log, write the date the file was pulled and who has it. This allows you more control over the file and a trail can be established to hunt down the file if it's needed for an emergency.

- Train your medical assistants to sort all of the files in alphabetical or numerical order before they begin refiling. Once the files are in proper order the medical assistant need only scan for the out-guide and replace the files in their right order starting from one and moving down the line.

- *Pull inactive charts.* Generally if a patient has not been in to see you within five years you should pull the chart from your active files and put it in a less accessible space or a low-cost storage area.

Your initial culling process should be done over

a weekend and all charts should be "weeded-out" to begin. To make the process easier in the future, a color coded dot can be affixed to each file when the patient visits your practice in any given year. For example: assume that a red color dot denotes 1979. When a patient visits your practice in 1979 put a red dot on his chart. If the same patient comes in again the red dot indicates that the patient has been in the office in 1979. In 1980, if the patient comes in again put a yellow dot on the patient chart. In this way, when the time comes to cull the chart, you will know which patient's haven't been in for the past five years by looking for the colored dot. Make sure all staff know the color-dot code by year.

File inactive charts alphabetically in a storage area. Since you won't be referring to the inactive charts on a regular basis, these can be filed somewhere which costs less than your office rent or in non-"prime" space.

Medical records management has progressed a long way from the four-drawer filing cabinet invented in 1893. Physicians no longer have to bear the many aggravations of an antiquated record keeping system. With the implementation of an open shelf, lateral, color coded filing system you will surely reap the rewards of efficiency in time and money for many years to come. Remember — anyone can file a record; the trick is to find it.



# Pioneers in Medicine For the Family

## **BOOTS PHARMACEUTICALS, INC.**

Operating in the U.S. since 1977, Boots is a world-wide leader in pharmaceutical research and manufacture. Boots has directed its efforts toward providing products useful in the practice of family medicine.

Some of our better known products are Lopurin™, Ru-Tuss® and Ru-Vert®. This advertisement highlights four other products particularly useful for the family.

**F-E-P CREME® • SU-TON® • TWIN-K® • TWIN-K-CI™**



**For the Majority of  
Steroid-Responsive Dermatoses\*  
Seen in Family Practice**

# F-E-P CREME®

(Iodochlorhydroxyquin — Pramoxine HCl — Hydrocortisone)

## The 4 in 1 Corticosteroid Cream

Anti-inflammatory, antifungal, antibacterial actions, and, uniquely, a topical anesthetic for immediate relief of the itching or burning that frequently accompanies skin problems. One size (½ ounce), one strength for ease of prescription.

\*This drug has been evaluated as possibly effective for these indications. See prescribing information on last page of this advertisement.

**For the Geriatric Patient**

# SU-TON®

## Liquid Tonic

A pleasant tasting prescription tonic containing iron, vitamins, minerals, an analeptic and 18% alcohol. Ideal for those who may benefit from vitamin deficiency prevention. Just one tablespoon before each meal.

Each 45 ml (3 tablespoonfuls) contains:

Pentylentetrazol.	30 m
Niacin.	50 m
Vitamin B-1.	10 m
Vitamin B-2.	5 m
Vitamin B-6.	1 m
Vitamin B-12.	3 mc
Choline.	100 m
Inositol.	50 m
Manganese (as Manganese Sulfate).	1 m
Magnesium (as Magnesium Sulfate).	2 m
Zinc (as Zinc Sulfate).	1 m
Iron (as Ferric Pyrophosphate, Soluble).	22 m
Alcohol.	18%

See prescribing information on last page of this advertisement.



## For Potassium Supplementation Improved Compliance...

# TWIN-K®

Each 15 ml supplies 20 mEq of potassium ions as a combination of potassium gluconate and potassium citrate in a sorbitol and saccharin solution.

The good tasting potassium supplement

- Designed for prophylactic and therapeutic use with diuretics and adrenocorticoids.
- Pleasant taste and convenient dosage aid patient compliance.

The organic salt of potassium can be given as a liquid without producing significant gastric symptoms and without an untoward effect on the mucosa of the small intestine.<sup>1</sup>

<sup>1</sup>Leeson-McDermott, Textbook of Medicine, 15th Ed. 1979, W.B. Saunders Co., Philadelphia, page 1959.

## In Cases with Chloride Deficiency...

# TWIN-K-CI™

Each 15 ml supplies 15 mEq of potassium ions and 4 mEq of chloride ions as a combination of potassium gluconate, potassium citrate, and ammonium chloride in a sorbitol and saccharin solution.

The good tasting potassium supplement with chloride

- In hypokalemic hypochloremic alkalosis, chloride ions are required. Twin-K-CI is specially formulated to be a good tasting chloride containing potassium supplement.
- Contains no potassium chloride. Twin-K-CI is a carefully balanced combination of organic potassium salts plus ammonium chloride.
- In hypochloremic patients, potassium should be provided as the chloride salt, or chloride ion must be made available in some other form, such as ammonium chloride or sodium chloride.<sup>1</sup>

See prescribing information on last page of this advertisement.



## F-E-P CREME®

### DESCRIPTION

F-E-P Creme is a topical water soluble anti-inflammatory, anesthetic preparation intended for treatment of various inflammatory skin disorders. The drug contains the following active ingredients:

Iodochlorhydroxyquin	3.0%
Pramoxine Hydrochloride	0.5%
Hydrocortisone	1.0%

### INDICATIONS AND USAGE

Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the indications as follows: "Possibly" effective: Contact or atopic dermatitis; impetiginized eczema; nummular eczema; infantile eczema, endogenous chronic dermatitis; stasis dermatitis; pyoderma, nuchal eczema and chronic eczematoid otitis externa, acne urtica; localized or disseminated neurodermatitis; lichen simplex chronicus; anogenital pruritus (vulvae, scroti, ani); folliculitis; bacterial dermatoses; mycotic dermatoses such as tinea (capitis, cruris corporis, pedis); moniliasis; intertrigo. Final classification of the less-than-effective indications requires further investigation.

Pramoxine Hydrochloride promptly relieves pain and itch. This compound may be used safely on the skin of those patients sensitive to the "caine" type local anesthetics.

### CONTRAINDICATIONS

Hypersensitivity to F-E-P Creme, or any of its ingredients or related compounds; lesions of the eye, tuberculosis of the skin, most viral skin lesions (including herpes simplex, vaccinia and varicella).

### WARNINGS

This product is not for ophthalmic use.

In the presence of systemic infections, appropriate antibiotics should be used.

### USE IN PREGNANCY

Topical steroids have not been reported to have an adverse effect on pregnancy. However, fetal abnormalities have been produced in pregnant laboratory animals that have been exposed to large doses of topical corticosteroids. Drugs of this class should not be used extensively during pregnancy.

### PRECAUTIONS

F-E-P Creme may be irritating to the skin in some patients. If irritation occurs discontinue therapy. Staining of clothes or hair may also occur with use of this preparation. Although systemic toxicity has not been reported with this drug, adrenal pituitary suppression is possible, especially when the drug is used extensively or kept under an occlusive dressing for a prolonged period. Iodochlorhydroxyquin can be absorbed through the skin and interfere with thyroid function tests. Therapy with this preparation should stop at least a month before performance of these tests. The ferric chloride test for phenylketonuria (PKU) can be positive if F-E-P Creme is on the diaper or in the urine.

Prolonged use of this drug may result in an overgrowth of non-susceptible organisms requiring appropriate therapy.

### ADVERSE REACTIONS

Skin rash or hypersensitivity may occur following topical application.

The following local adverse reactions have been reported with topical corticosteroids, especially under occlusive dressings: burning, itching, irritation, dryness, folliculitis, hypertrichosis, acneiform eruptions, hypopigmentation, perioral dermatitis, allergic contact dermatitis, maceration of the skin, secondary infection, skin atrophy, striae, miliaria. Discontinue therapy if untoward reactions occur.

### DOSAGE AND ADMINISTRATION

Apply a thin layer of the drug to affected parts 3-4 times daily.

### Note:

1 F-E-P Creme is distributed with 3.0% iodochlorhydroxyquin for use when antibacterial/antifungal activity is desired.  
2 F-E-P Creme (Plain) is the regular formulation, but without iodochlorhydroxyquin.

Both of these preparations contain pramoxine hydrochloride, which has topical anesthetic properties. Pramoxine is not chemically related to benzocaine or amide type topical anesthetics. Patients can tolerate pramoxine although they may be sensitive to other "caine" type of topical or local anesthetics.

### HOW SUPPLIED

F-E-P Creme 1/2 ounce (15 gm) tubes NDC 0524-0096-S1  
F-E-P Creme Plain 1/2 ounce (15 gm) tubes NDC 0524-0095-S1  
Federal law prohibits dispensing without a prescription  
July 1980

## SU-TON®

### DESCRIPTION

Forty-five milliliters of SU-TON contain the following ingredients:

Pentylenetetrazol	30 mg
Niacin	50 mg
Vitamin B-1	10 mg
Vitamin B-2	5 mg
Vitamin B-6	1 mg
Vitamin B-12	3 mcg
Choline	100 mg
Inositol	50 mg
Manganese (as Manganese Sulfate)	1 mg
Magnesium (as Magnesium Sulfate)	2 mg
Zinc (as Zinc Sulfate)	1 mg
Iron (as Ferric Pyrophosphate, Soluble)	22 mg
Alcohol	18%

### INDICATIONS AND USAGE

SU-TON contains pentylenetetrazol which may be helpful in the older patient as an anesthetic agent when mental confusion and memory defects are present. SU-TON also contains vitamins, trace minerals, and iron, for those patients who may benefit by preventing the development of a deficiency.

### CONTRAINDICATIONS

Epilepsy, convulsive disorders or known history of sensitivity to any of the listed active ingredients.

### WARNINGS

The safety of this preparation during pregnancy and lactation has not been established. Use of this drug requires that the physician evaluate the potential benefits of the drug against any possible hazard to the mother and child.

### PRECAUTIONS

Although there are no absolute contraindications to pentylenetetrazol, it should be used with caution in epileptic patients or those known to have a low convulsive threshold or a focal brain lesion. Caution should be exercised when treating patients with high doses of SU-TON who have heart disease. While pentylenetetrazol does not act directly on the myocardium, the results from central vagal stimulation could cause bradycardia.

### ADVERSE REACTIONS

Pentylenetetrazol in high doses may produce toxic symptoms typical of central nervous system stimulants, which act on the higher motor centers and the spinal cord. Convulsions resulting from this drug are spontaneous and are not induced by external stimuli. They usually last for several minutes and are followed by profound depression and respiratory paralysis. Death has been reported from the ingestion of 10 grams of pentylenetetrazol.

### DRUG ABUSE

Drug dependence has not been reported with SU-TON.

### OVERDOSAGE

Signs and symptoms of acute overdose may be due principally from overstimulation of the central nervous system and from excessive vasodilatation with resulting autonomic nervous system imbalance. The symptoms may include the following: vomiting, agitation, tremors, hyperreflexia, sweating, confusion, hallucinations, headache, hyperpyrexia, tachycardia. Treatment consists of appropriate supportive measures. If signs and symptoms are not too severe and the patient is conscious, gastric evacuation may be accomplished by induction of emesis or gastric lavage.

Intensive care must be provided to maintain adequate circulation and respiratory exchange.

### DOSAGE AND ADMINISTRATION

One tablespoonful (15 ml) 3 times a day 20-30 minutes before meals. This drug is not for use in children under 12 years of age.

### HOW SUPPLIED

Bottles of 4.73 ml (16 fl oz) NDC 0524-0015-16  
Federal law prohibits dispensing without prescription.  
February 1980

## TWIN-K®

### DESCRIPTION

Each 15 milliliter (one tablespoonful) supplies 20 mEq of potassium ions as a combination of potassium gluconate and potassium citrate in a sorbitol and saccharin solution.

### INDICATIONS AND USAGE

For use as oral potassium therapy in the prevention or treatment of hypokalemia which may occur secondary to diuretic or corticosteroid administration. It may be used in the treatment of cardiac arrhythmias due to digitalis intoxication.

### CONTRAINDICATIONS

Severe renal impairment with oliguria or azotemia, untreated Addison's disease, adynamia episodica hereditaria, acute dehydration, heat cramps and hyperkalemia from any cause. This product should not be used in patients receiving aldosterone antagonists or triamterene.

### WARNINGS

TWIN-K (potassium gluconate and potassium citrate) is a palatable form of oral potassium replacement. It appears that little if any potassium gluconate-citrate penetrates as far as the jejunum or ileum where enteric coated potassium chloride lesions have been noted. Excessive, undiluted doses of TWIN-K may cause a saline laxative effect.

To minimize gastrointestinal irritation, it is recommended that TWIN-K be taken with meals or diluted with water or fruit juice. A tablespoonful (15 ml) in 8 ounces of water is approximately isotonic. More than a single tablespoonful should not be taken without prior dilution.

### PRECAUTIONS

Potassium is a major intracellular cation which plays a significant role in body physiology. The serum level of potassium is normally 3.8-5.0 mEq/liter. While the serum or plasma level is a poor indicator of total body stores, a plasma or serum level below 3.5 mEq/liter is considered to be indicative of hypokalemia. The most common cause of hypokalemia is excessive loss of potassium in the urine. However, hypokalemia can also occur with vomiting, gastric drainage and diarrhea.

Usually a potassium deficiency can be corrected by oral administration of potassium supplements. With normal kidney function, it is difficult to produce potassium intoxication by oral administration. However, potassium supplements must be administered with caution since, usually, the exact amount of the deficiency is not accurately known. Checks on the patient's clinical status and periodic EKG and/or serum potassium levels should be made. High serum potassium levels may cause death by cardiac depression, arrhythmias or arrest.

In patients with hypokalemia who also have alkalosis and a chloride deficiency (hypokalemic hypochloremic alkalosis), there will be a requirement for chloride ions. TWIN-K is not recommended for use in these patients.

### ADVERSE REACTIONS

Symptoms of potassium intoxication include paresthesias of the extremities, flaccid paralysis, listlessness, mental confusion, weakness and heaviness of the legs, fall in blood pressure, cardiac arrhythmias and heart block. Hyperkalemia may exhibit the following electrocardiographic abnormalities: disappearance of the P wave, widening and slurring of the QRS complex, changes of the ST segment and tall peaked T waves.

TWIN-K taken on an empty stomach in undiluted doses larger than 30 ml can produce gastric irritation with nausea, vomiting, diarrhea, and abdominal discomfort.

### OVERDOSAGE

The administration of oral potassium supplements to persons with normal kidney function rarely causes serious hyperkalemia. However, if the renal excretory function is impaired, potentially fatal hyperkalemia can result. It is important to note that hyperkalemia is usually asymptomatic and may be manifested only by an increased serum potassium concentration with or without EKG changes. Treatment measures include:

1. Elimination of potassium containing drugs or foods.
2. Intravenous administration of 300 to 500 mEq/hr of a 10% dextrose solution containing 10-20 units of crystalline insulin per 1000 milliliters.
3. Correction of acidosis.
4. Use of exchange resins or peritoneal dialysis.

In treating hyperkalemia, it should be noted that patients stabilized on digitalis can develop digitalis toxicity when the serum potassium concentration is changed too rapidly.

### DOSAGE AND ADMINISTRATION

The usual adult dosage is one tablespoonful (15 ml) in 6-8 fluid ounces of water or fruit juice, two to four times a day. This will supply 40 to 80 mEq of potassium ions. The usual preventative dose of potassium is 90 mEq per day while therapeutic doses range from 30 mEq to 100 mEq per day. Because of the potential for gastrointestinal irritation, undiluted large single doses (30 ml or more) of TWIN-K are to be avoided.

Deviations from this schedule may be indicated, since no average total daily dose can be defined, but must be governed by close observation for clinical effects.

### HOW SUPPLIED

Bottles of 1 pint (16 fl oz)

NDC 0524-0091-16

### CAUTION

Federal law prohibits dispensing without prescription.

July 1980

## TWIN-K-CI™

### DESCRIPTION

Each 15 ml (one tablespoonful) supplies 15 mEq of potassium ions and 4 mEq of chloride ions as a combination of potassium gluconate, potassium citrate, and ammonium chloride, in a sorbitol and saccharin solution.

### INDICATIONS

For use as oral potassium therapy in the prevention or treatment of hypokalemia which may occur secondary to diuretic or corticosteroid administration. It may be used in the treatment of cardiac arrhythmias due to digitalis intoxication.

Potassium and chloride are usually the salts of choice in the treatment of hypokalemia since chloride and potassium deficiencies are likely to be associated with each other.

### CONTRAINDICATIONS

Severe renal impairment with oliguria or azotemia, untreated Addison's disease, adynamia episodica hereditaria, acute dehydration, heat cramps and hyperkalemia from any cause. This product should not be used in patients receiving aldosterone antagonists or triamterene.

### WARNINGS

TWIN-K-CI is a palatable form of oral potassium replacement. Excessive, undiluted doses of TWIN-K-CI may cause a saline laxative effect.

To minimize gastrointestinal irritation, it is recommended that TWIN-K-CI be taken with meals or diluted with water or fruit juice. A tablespoonful (15 ml) in 8 ounces of water is approximately isotonic. More than a single tablespoonful should not be taken without prior dilution.

### PRECAUTIONS

Potassium is a major intracellular cation which plays a significant role in body physiology. The serum level of potassium is normally 3.8-5.0 mEq/liter. While the serum or plasma level is a poor indicator of total body stores, a plasma or serum level below 3.5 mEq/liter is considered to be indicative of hypokalemia. The most common cause of hypokalemia is excessive loss of potassium in the urine. However, hypokalemia can also occur with vomiting, gastric drainage and diarrhea.

Usually a potassium deficiency can be corrected by oral administration of potassium supplements. With normal kidney function, it is difficult to produce potassium intoxication by oral administration. However, potassium supplements must be administered with caution since, usually, the exact amount of the deficiency is not accurately known. Checks on the patient's clinical status and periodic EKG and/or serum potassium levels should be made. High serum potassium levels may cause death by cardiac depression, arrhythmias or arrest.

In patients with hypokalemia who also have alkalosis and a chloride deficiency (hypokalemic hypochloremic alkalosis), there will be a requirement for chloride ions. TWIN-K-CI is recommended for use in these patients.

### ADVERSE REACTIONS

Symptoms of potassium intoxication include paresthesias of the extremities, flaccid paralysis, listlessness, mental confusion, weakness and heaviness of the legs, fall in blood pressure, cardiac arrhythmias and heart block. Hyperkalemia may exhibit the following electrocardiographic abnormalities: disappearance of the P wave, widening and slurring of the QRS complex, changes of the ST segment and tall peaked T waves.

TWIN-K-CI taken on an empty stomach in undiluted doses larger than 30 ml can produce gastric irritation with nausea, vomiting, diarrhea, and abdominal discomfort.

### OVERDOSAGE

The administration of oral potassium supplements to persons with normal kidney function rarely causes serious hyperkalemia. However, if the renal excretory function is impaired, potentially fatal hyperkalemia can result. It is important to note that hyperkalemia is usually asymptomatic and may be manifested only by an increased serum potassium concentration with or without EKG changes.

Treatment measures include:

1. Elimination of potassium containing drugs or foods.
2. Intravenous administration of 300 to 500 mEq/hr of a 10% dextrose solution containing 10-20 units of crystalline insulin per 1000 milliliters.
3. Correction of acidosis.
4. Use of exchange resins or peritoneal dialysis.

In treating hyperkalemia, it should be noted that patients stabilized on digitalis can develop digitalis toxicity when the serum potassium concentration is changed too rapidly.

### DOSAGE AND ADMINISTRATION

The usual adult dosage is one tablespoonful (15 ml) in 6-8 fluid ounces of water or fruit juice, two to four times a day. This will supply 30 to 60 mEq of potassium ions and 8 to 16 mEq of chloride ions. The usual preventative dose of potassium is 90 mEq per day while therapeutic doses range from 30 mEq to 100 mEq per day. Because of the potential for gastrointestinal irritation, undiluted large single doses (30 ml or more) of TWIN-K-CI are to be avoided.

Deviations from this schedule may be indicated, since no average total daily dose can be defined, but must be governed by close observation for clinical effects.

HOW SUPPLIED Bottles of 1 pint (16 fl oz)

NDC 0524-0092-16

MANUFACTURED & DISTRIBUTED BY

**Boots Pharmaceuticals, Inc.**

Shreveport, Louisiana 71106

**Pioneers in Medicine For the Family**



# *North Carolina Department Of Human Resources*

## **RURAL HEALTH SERVICES**

An important topic at many national and regional meetings today is how to assure access to medical care, especially for rural residents. In response to such needs, North Carolina has since 1974 increased the number of counties where primary medical care resources are considered adequate from 19 to 63.

Several developments have assisted us in making such medical services available in rural areas. The Area Health Education Centers helped in decentralizing medical education and in helping the physician in isolation keep up to date. Since 1976, 200 family physicians have trained in the program, 123 of whom have remained in North Carolina and 70 of whom have located in towns under 25,000.

We have been pleased with the success of our own Department of Human Resources' Office of Rural Health Services (ORHS). Though initially established to help set up rural health centers staffed by family nurse practitioners, the office has turned its attention to physician placement. It has been particularly active in the 42 counties which had in 1974 the worst primary physician to population ratios. By September 1980, the office had assisted these counties in the placing of 103 physicians and had also helped 14 communities establish and maintain rural health centers. Since its establishment, the office has assisted 28 communities in the establishment of primary care centers and placed more than 250 physicians, some of whom have

replaced nurse practitioners and physician assistants.

Such success would not have been possible without the support of medical leadership, especially in those early years when physicians were scarce. Today, when much ORHS work is directed toward assisting small rural communities seeking physicians and helping physicians to find rural practices, our success is still highly dependent on the support of organized medicine.

Retaining physicians and other health providers in our small towns is another objective of the Office of Rural Health Services. The staff's technical assistance program appears to be extremely effective in accomplishing this objective, as the office works closely with recipients of National Health Service Corps scholarships trained *in* North Carolina.

Though reduced in number, many areas in North Carolina still need additional primary health resources. Also, as some of you approach retirement, you may be looking to the future, considering ways to provide continuing care to your patients. If your Office of Rural Health can be of assistance to you in finding physicians interested in such practice, I hope you will let me know.

Sarah T. Morrow, M.D., M.P.H.

Secretary.

N.C. Department of Human Resources

325 North Salisbury Street

Raleigh, N.C. 27611

## Correspondence

### FAMILIAL OVARIAN CANCER REGISTRY

To the Editor:

There are increasing reports of ovarian cancer occurring in two (2) or more family members. The Familial Ovarian Cancer Registry will evaluate this increase to obtain information for genetic counseling to family members. Case accrual will evaluate:

- the number of cases of familial ovarian cancer
- the type of inheritance
- the relationship to breast and endometrial carcinoma

- the study of environmental, geographical and racial factors

- genetic counseling

Please address inquiries regarding the clinical history of any family with two (2) or more members with ovarian cancer to:

M. Steven Piver, M.D., Director  
Familial Ovarian Cancer Registry  
Roswell Park Memorial Institute  
New York State Department of Health  
666 Elm Street  
Buffalo, New York 14263  
Telephone: (716) 845-3110

### *Introducing...*

## TEGA-CORT FORTÉ 1% - TEGA - CORT - 0.5%

(Available at all drug stores - Rx Only)

SQUEEZE TYPE DISPENSER BOTTLES

**Tega-Cort Forté** and **Tega-Cort** lotions are offered in a nice smooth non-staining water soluble base.

**Indications:** For relief of the inflammatory manifestations of corticosteroid responsive dermatoses including Poison Ivy, and sunburn.

**Contraindications:** Topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use in pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, or in large amounts, or for prolonged periods of time.

**Dosage and Administration:** Apply to affected area 3 or 4 times daily as directed by your physician.

**Caution:** Federal law prohibits dispensing without prescription. For external use only. Store in a cool place but do not freeze.

PLEASE CONSULT INSERT SUPPLIED WITH EACH BOTTLE FOR MORE DETAILED INFORMATION

WE FEATURE ONE OF THE MOST COMPLETE LINE OF INJECTIBLES IN THE SOUTH-EAST AT THE VERY BEST PRICE, CONSISTENT WITH QUALITY.

**ORTEGA PHARMACEUTICAL CO., INC. — JACKSONVILLE, FLORIDA 32205**



# Bulletin Board

## NEW MEMBERS of the State Society

### ANSON

Daugird, Allen Joe, (FP) 115 Trexler Drive, Wadesboro 28170

### BUNCOMBE

Christensen, Dennis Wesley, (P) Box 5534, Appalachian Hall, Caledonia Rd., Asheville 28816  
Moretz, Frank Hannon, (AN) 15 Aspen Way, Asheville 28803  
Noh, Jung Ja Kim, (PM) 43 Deer Run Drive, Asheville 28803  
O'Cain, Charles Frank, (IM) 131 McDowell Street, Asheville 28801  
Sewell, Robert Dalton, (PD) Route #4, Box 211-A, Candler 28715

### BURKE

Croom, III, Dorwyn Wayne, (PTH) 309 Robinhood Drive, Morganton 28655  
Forgy, Byron Keith, (GS) 425 S. King Street, Morganton 28655

### CALDWELL

Newman, Robert Henry, (R) 913 Southview Place, N.E., Lenoir 28645

### COLUMBUS

Hilal, Talal Elias, (GE) Route #7, Box C-41, Whiteville 28472

### CRAVEN-PAMLICO-JONES

Joyner, Ronnie Stephen, (OBG) 3631 Wedgewood Drive, New Bern 28560

### CUMBERLAND

Ellenbogen, Charles, (IM) 1601 Owen Drive, P.O. Box 6469, Fayetteville 28306  
Henley, Jr., John T. (OTO) 2809 Skye Drive, Fayetteville 28303  
Stitt, Jr., Van Junius, (FP) 1601-B Owen Drive, Fayetteville 28305

### DAVIDSON

Francis, Rudolph Nathaniel, (AN) P.O. Box 847, Thomasville 27360

### DURHAM-ORANGE

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Clements, Fiona Marshall, (RESIDENT) 4027 Trotter Ridge Road, Durham 27707  
Friedman, Gregg Allen, (AN) Dept. of Anesthesiology, Duke Univ. Med. Center, Durham 27710  
Huffman, David Michael, (STUDENT) 149 Celeste Circle, Chapel Hill 27514  
Johnson, Jr., Thomas Leroy, (STUDENT) 500 Umstead Drive, #108F, Chapel Hill 27514  
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Deponte, Kathleen Ann, (RESIDENT) 155 Cedar Lake Trail, Winston-Salem 27104

Hartjen, Charles Alfred, (RESIDENT) 170 Green Valley Road, Winston-Salem 27106  
Kawamoto, Ernest Hiroshi, (PTH) Dept. of Pathology, Bowman Gray Sch. of Medicine, Winston-Salem 27103  
Koubek, Terry Dean, (RESIDENT) 1210 Foxhall Drive, Winston-Salem 27106  
Lipoff, Scott Lee, (STUDENT) 338 Crafton Street, Apt. #1, Winston-Salem 27103  
Ross, Robert Mitchell, (A) 3303-E Healy Drive, Winston-Salem 27103

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Heller, Joel Harvey, (FP) 603 Dolly Madison, Greensboro 27410  
Lacroix, Carol Ann, (RESIDENT) 911 Magnolia Street, Greensboro 27401  
Simel, Paul Joseph, 111 W. Wendover Avenue, Greensboro 27401  
Thacker, Robert Keller, (FP) 711 Milner Road, Greensboro 27410

### HENDERSON

Sigmon, Lee Merrell, (PTH) 3105 Hickory Hill Road, Hendersonville 28739

### HERTFORD

Qureshi, Aftab Ahmad, (GS) 312 S. Academy Street, Ahoskie 27910

### IREDELL

Donatelli, Frank Joseph, (FP) 417 E. Statesville Avenue, Mooresville 28115  
Lieu, Chong Hieun, (PD) 914 Fieldstone Road, Mooresville 28115  
Madry, James Thomas, (OBG) Route #2, Box 510, Mooresville 28115

### LENOIR-GREENE

Dennis, Patrick Michael, (OPH) Doctor's Drive, Kinston Clinic North, Kinston 28501

### LINCOLN

Kohener, Isak, 824 S. Aspen Street, Lincolnton 28092

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### RUTHERFORD

Leshner, Donald Tice, (DR) 909 N. Washington Street, Rutherfordton 28139

### SAMPSON

Atkins, Michael Patrick, (OBG) 501 Walking Stick Trail, Clinton 28328  
Carver, Walter Dickinson, (ORS) Sampson County Mem. Hospital, Medical Office Building, Clinton 28328

### SCOTLAND

Neal, V. John William, (FP) Route #6, Box 88AA, P.O. Box 1082, Laurinburg 28352

### WAKE

Buchin, David Lee, (EM) 14212 Cross Creek Road, Raleigh 27614  
Ellis, Robert Gardner, (EM) 716 Lake Boone Trail, Raleigh 27607  
Nassef, George Joseph, (EM) P.O. Box 19553, Raleigh 27619  
Stadiem, Michael David, (FP) 107 Eagle Court, Cary 27511

Unger, Henry Alan, (U) 915 Kildaire Farm Road, Cary 27511  
Yarborough, Michael Francis, (GS) 3801 Computer Drive, Raleigh 27609

#### WILSON

Cowan, Leon Kerr, (D) 702 Broad Street, Wilson 27893  
Neeland, David Blair, (R) 1102 Robin Hill Road, Wilson 27893

## WHAT? WHEN? WHERE? In Continuing Education

Please note: 1. The Continuing Medical Education Programs at Bowman Gray, Duke, East Carolina and UNC Schools of Medicine, Dorothea Dix, and Burroughs Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or cosponsored by these schools automatically qualify for AMA Category I credit toward the AMA's Physician Recognition Award, and for North Carolina Medical Society Category A credit. Where AAFP credit has been requested or obtained, this also is indicated.

2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information."

#### June 3

"What's New in Cardiovascular Imaging — Echo, Nuclear & CAT?"

Place: Pitt County Memorial Hospital, Greenville

Fee: \$30

Credit: 6 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville 27834

#### June 4-5

"The Joint Lipid Symposium (Duke and UNC)"

Place: The Governor's Inn; Research Triangle Park, N.C.

Fee: Free

Credit: 9 hours

For Information: Dr. Steven Quarfordt; GI Dept.: Duke Univ. Med. Ctr., Durham 27710 Telephone: 684-3572

#### June 5-6

"Preventive Perinatal Medicine"

Place: Berryhill Hall, UNC, Chapel Hill

Fee: \$60

Credit: 9½ hours

For Information: William Wood, M.D., Dept. of Cont. Med. Ed., UNC, Chapel Hill 27514

#### June 17

"Critical Care Medicine/Surgery"

Place: Holiday Inn, Sanford, N.C.

Fee: \$12.00

Credit: 3½ hours

For Information: R. S. Cline, M.D., Director of Cont. Med. Ed., Sanford 27330 Telephone: (919) 775-2111, Ext. 219

#### June 18-21

"Dermatology for the Non-Dermatologists"

Place: Myrtle Beach Hilton, Myrtle Beach, South Carolina

Fee: \$275

Credit: 14 hours

For Information: Gerald Lazarus, M.D., (Ms. Gail McLamb), Duke University Medical Center, Durham 27710 (919) 684-2504

#### July 10-12

31st Annual Institute on Tuberculosis & Other Respiratory Diseases

Place: YMCA — Blue Ridge Assembly, Black Mountain

Fee: \$30

For Information: C. Scott Venable, Executive Director, American Lung Association of N.C., P.O. Box 27985, Raleigh 27611 or (919) 832-8326.

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#### July 13-17

23rd Annual Postgraduate Course (Morehead Symposium)  
Place: Bogue Banks Country Club, Atlantic Beach  
Fee: \$235  
Credit: 30 hrs, AAFP applied for  
For Information: Harry A. Gallis, M.D., Box 3306, Duke University Medical Center, Durham (919) 684-3279

#### July 16-18

3rd Annual Mountain Meeting  
Place: Grove Park Inn, Asheville  
Credit: 12 hrs  
Fee: \$100  
For Information: Emery C. Miller, M.D., Dept. of Cont. Ed., Bowman Gray School of Medicine, Winston-Salem

#### July 27-August 1

Radiology Postgraduate Course  
Place: Bogue Banks Country Club, Atlantic Beach  
Fee: \$250  
Credit: 30 hrs, AAFP applied for  
For Information: Donald Kirks, M.D., Box 3308, Duke Med. Ctr., Durham 27710

#### July 31, Aug. 1

Symposium on Cardio-Vascular Diseases  
Place: Holiday Inn, Wrightsville Beach  
Information: Emile E. Werk, Jr., M.D. Chief of Medicine, University Medical Service, Area Health Education Center, 2131 South 17th St., Wilmington 28401

The items listed in the above column are for the six months immediately following the month of publication. Requests for listing should be received by "WHAT? WHEN? WHERE?", P.O. Box 27167, Raleigh 27611, by the 10th of the month prior to the month in which they are to appear. A "Request for Listing" form is available on request.

## AUXILIARY TO THE NORTH CAROLINA MEDICAL SOCIETY

### BOOK REVIEWS

**Sontag, Susan: *Illness as Metaphor*.** New York, Farrar, Straus and Giroux, 1977.

That which we don't fully understand is often explained through myths or metaphors. Such symbolization makes manageable that which before was uncertain, uncontrollable. So it is with certain diseases. Unable to break their code, powerless to change them, and lacking clear attitudes toward death, we retreat behind superstition in an almost primitive ritual. We turn the disease into a public image. That which is most horrible is likened to this illness. It is as if the incantation will deny it its power, or at least send it knocking on someone else's door.

It is on this myth-making process as it relates to cancer that Susan Sontag turns her focus in *Illness as Metaphor*. It is Miss Sontag's premise that cancer is no longer a medical term signifying a certain disease, but that cancer has become a metaphor, a symbol synonymous with death and an idiom of all that we find reprehensible in our culture. To be ill with cancer is not just to have cancer but it is to enter a world of social connotations. Implicit within the metaphor are the beliefs that there is a specific cancer prone person-

ality, that this personality is capable of bringing about his own illness, and that he can therefore cure himself by mobilizing his own will. Not only is the cancer patient made to feel he deserves what he has brought on himself, but also the responsibility of healing is placed solely on that patient, at a time when everything undesirable in society is compared to the disease he now has. When treated as terminal and infectious (morally, if not literally), it is little wonder that the patient is unable to achieve independence and clarity, to shake off the societal stigma and concentrate on his own well being.

To think of cancer in such metaphorical terms is therefore dangerous. It gives to cancer a power which it should not have, that is, the power to be psychologically as well as physically harmful.

In her effort to demythologize cancer, strip it of its metaphorical innuendo, Miss Sontag compares and contrasts its imagery with the imagery of the 19th century disease tuberculosis. According to Miss Sontag, both illnesses grew out of the same root — consumption. However, their metaphorical qualities took on antithetical relationships. TB was believed to bestow upon its recipient an ultimate spiritual refinement. It connoted sensitivity, creativity and heightened consciousness. Cancer, on the other hand, brought to its recipient humiliation and fear. Cancer became indicative of all that was undesirable and unredeemable. Its very treatment became a military campaign. Patients were bombarded with toxic rays; the offending cells were excised by radical surgery. Such thinking was not confined to the personal arena but became part of the cultural idiom as well. Cancer became the nomenclature by which we described politics (John Dean explained Watergate to Nixon: "We have a cancer within"), peoples (the Jews were a cancer to be excised by Hitler) and societies (Communism is a repressive cancer.) The way we talk about illness simply reinforces our beliefs about that illness.

While Miss Sontag builds her case on the writings of many others — novelists, historians, psychologists — that case is not always substantiated. Pointing out that TB resulted in thinness and was thus romanticized to connote a certain beauty or languor, she then states that the 20th century emphasis on thinness is the last vestige of this metaphor. But perhaps her intent is not to prove, but to awaken our sensitivities to the awareness that metaphorical thinking does pervade our lives as well as qualify those lives.

Miss Sontag's intent is not to trace the metaphorical thinking to a single cause: the physician's inability to cure; society's inability to provide for its people in an advanced technological state; the individual's inability to find meaning in death. They may all be a part of it. Her intent is rather to clarify our thinking about illness, particularly the illness cancer. Her point is that we must disinfect ourselves of its imagery if we are to be able to focus upon a cure. Taking cancer out of the psychological arena and replacing it in the medical one will restore our sensibility and factuality in dealing with this disease. Only then will we be able

to look critically on this process of both living and dying.

SUE ELLEN MCNEIL

**Lear, Martha Weinman: *Heartsounds*.** New York, Simon and Schuster, 1980.

How does the average doctor react to a threat on his own body? If he is like Harold Lear, former urologist turned sex therapist, he denies it. Then he seeks help and reassurance, and finally, he is angry and wants his

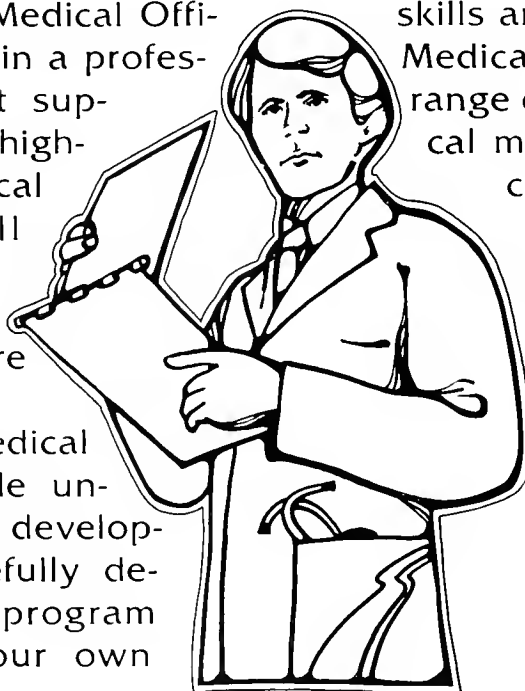
colleagues to remedy the situation when at 53 he is stricken with a heart attack. This is a non-fiction account of a man whose familial history on both sides reveals early deaths due to coronaries. He is able to deal with this, but what he cannot understand and rages about is the treatment or lack of understanding exhibited by his colleagues.

Hal Lear's desire to live and "beat this thing" is the driving force in this true drama that moves this book along to its inevitable conclusion. Along with this

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spirit, he is supported by his loyal, loving journalist wife. What begins as his account of being a patient, ends as his wife's account and tribute to her husband's indomitable courage and ceaseless questioning.

Among the problems encountered by Lear is an emotionally detached doctor who gives glib non-answers, joking retorts to real questions and has the ability to make the patient feel at fault for not recovering. Defensiveness is another characteristic he encounters too often.

The descriptive passages and there are many, are vivid. Mrs. Lear's accounts of fright following surgery and heart failure in Dr. Lear, anger when an intern is too busy to respond to an urgent call, and tenderness as their intimacy grows with the threat of its being taken away are especially engrossing. Dr. Lear's passages describing the coronary angiography, his inability to bounce back following bypass surgery and subsequent heart attacks and his endless search (in the literature) to find the answers eluding him and his recovery are most touching. He never loses sight of his own self-esteem and of the details of everyday life, which make his story worthwhile in the human sense. His attention to detail in all aspects make it unique in the medical sense.

*Heartsounds* is a book that could have been written as a good fictional medical story. That it is a true account makes it worth reading by all medical people who are dedicated to good patient care. The author leaves us with an understanding of the "joy of life."

JUDY MOUNTJOY

#### News Notes from the—

### EAST CAROLINA UNIVERSITY SCHOOL OF MEDICINE

Dr. James Akers, assistant professor of microbiology, presented "Analysis of Ribonucleic Acids from Complete and Defective Cocksackie Virus B-4" at the annual meeting of the American Society for Microbiology in Dallas, Texas.

\* \* \*

Dr. Charles Ravaris, professor of psychiatry, recently was appointed a consultant to the National Institute of Mental Health. Ravaris will assist state psychiatric hospitals in upgrading the quality of patient care.

Ravaris is the author of "Current Drug Therapy for Agoraphobia" in the January issue of *American Family Physician*.

\* \* \*

Dr. Andrea Hunter, assistant professor of pharmacology attended the Society of Toxicology meeting in San Diego, Calif., where she presented "The Influence of Some Thiono-sulfur Containing Compounds

on Glutathione S-transferase Activity of Rat Liver Cytosol."

\* \* \*

Dr. Irvin Blose, professor of psychiatry, is the author of "Difference in Brain Density between Chronic Alcoholic and Normal Control Patients" in the January issue of *Science*.

\* \* \*

Dr. Allen Bowyer, professor of medicine, attended the Ninth Annual Northeastern Bioengineering Conference at Rutgers University where he presented "Information Theory — Determinations of Best Diagnostic Values of Number and Severity of Coronary Stenosis for Angina and Left Ventricular Dysfunction" and "Left Ventricular Wall Motion Analysis by a Coordinate Free Vector Computation Technique." Bowyer also attended the American College of Cardiology's Annual Scientific Session in San Francisco and presented "Exercise Induced Arterial Hypotension — A Normal Response to Severe Exercise."

\* \* \*

Dr. Sam Pennington, professor of biochemistry, is co-author of "The Effect of Ethanol on the Metabolism of Prostaglandins and Related Compounds," a chapter appearing in *Alcohol and Aldehyde Metabolizing Systems - IV* published in January 1981 by Plenum Publishing Corporation.

\* \* \*

Dr. G. Lynis Dohm, associate professor of biochemistry, is the author of "Influence of Exercise on Free Amino Acid Concentrations in Fat Tissues" which appeared in the January issue of the *Journal of Applied Physiology*. Dr. Dohm has been appointed to the grant review subcommittee of the N.C. Heart Association.

\* \* \*

Drs. Hisham Barakat and G. Lynis Dohm, associate professors of biochemistry, published "Changes in Plasma Lipids and Lipolytic Activity During Recovery from Exercise of Untrained Rats" which appeared in the February 1981 "Proceedings of the Society for Experimental Biology and Medicine."

\* \* \*

Walter L. Shepherd, director of Health Services Research and Development Center, presented "Cross Cultural Influences and the Impact of the Nurse Practitioner Role" at the N.C. Nurse Practitioner Winter Conference held in Greenville.

\* \* \*

Dr. Donald Hoffman, associate professor of pathology, is the author of "Allergic Reactions to Biting Insects," a chapter in *Monograph on Insect Allergy* published by the American Academy of Allergy,

Committee on Insects. Hoffman also authored "Venom Immunotherapy: Comparison of 'Rush' vs. 'Conventional' Schedules" in *Annals of Allergy*.

\* \* \*

Drs. Richard Athey and S. Gregory Iams, assistant professors of physiology, are the authors of "Cold-restraint Induced Gastric Lesions in Normotensive and Spontaneously Hypertensive Rats" in the February issue of *Life Sciences*.

\* \* \*

Dr. Donald W. Barnes, assistant professor of pharmacology, recently presented "Studies on the Inhibition of Hepatic Microsomal Mixed-Function Oxidases in the Mouse by the Immunomodulator Maleic Anhydride-Divinyl Ether (DIVEMA) Copolymer" at the national meeting of the Reticuloendothelial Society in Tampa, Fla.

\* \* \*

Dr. Wilhelm R. Frisell, chairman and professor of the Department of Biochemistry, has been named chairman of the review group for the International Post-doctoral Fellowship Program at the Fogarty International Center of the National Institutes of Health. Frisell recently served as a member of the Senior International Fellowship Program of the Center.

\* \* \*

Dr. E. Jackson Allison, chairman and professor of the Department of Emergency Medicine, was a visiting professor at the St. Georges University School of Medicine in Grenada, West Indies, March 23-27.

\* \* \*

Dr. Edward M. Lieberman, professor of physiology, and Kathleen Smiley, research associate, published "Electrophysiological and Pharmacological Properties of Glial Cells Associated with the Medial Giant Axon of the Crayfish with Implications for Neuron-glial Cell Interactions" in the February issue of the *Upsala Journal of Medical Science*. Lieberman is also the author of "The Nature of the Membrane Potential of Glial Cells Associated with the Medial Giant Axon of the Crayfish" in the March issue of *Neuroscience*.

\* \* \*

Ron Morrison, research technician in the Department of Physiology, presented "The Effects of Gonadectomy on the Inotropic Response of Isolated Hearts from Male Spontaneously Hypertensive Rats (SHR)" to the N.C. Academy of Science in Charlotte, N.C., April 3-5.

\* \* \*

Dr. John Moskop, assistant professor of pediatrics and humanities, presented "The Retarded as Gifts" at the Southern Regional Society for Health and Human

## CYCLAPEN®-W (cyclacillin)

### Indications

Cyclacillin has less *in vitro* activity than other drugs in the ampicillin class and its use should be confined to these indications: Treatment of the following infections:

#### RESPIRATORY TRACT

Tonsillitis and pharyngitis caused by Group A beta-hemolytic streptococci

Branchitis and pneumonia caused by *S. pneumoniae* (formerly *D. pneumoniae*)

Otitis media caused by *S. pneumoniae* (formerly *D. pneumoniae*) and *H. influenzae*

Acute exacerbation of chronic bronchitis caused by *H. influenzae*

\*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*.

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, non-penicillinase producers

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing

Contraindications Contraindicated in individuals with history of an allergic reaction to penicillins.

Warnings Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY: Pregnancy Category B Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS: It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.

Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy

As with other semisynthetic penicillins, SGOT elevations have been reported

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks

Cyclacillin is not indicated in children under 2 months of age. Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

Dosage (Give in equally spaced doses)

INFECTION	ADULTS	CHILDREN*
Respiratory Tract		
Tonsillitis & Pharyngitis	250 mg q.i.d.	body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d.
Branchitis and Pneumonia		
Mild or Moderate Infections	250 mg q.i.d.	50 mg/kg/day q.i.d.
Chronic Infections	500 mg q.i.d.	100 mg/kg/day q.i.d.
Otitis Media	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Skin & Skin Structures	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Urinary Tract	500 mg q.i.d.	100 mg/kg/day

\*Dosage should not result in a dose higher than that for adults. †depending on severity

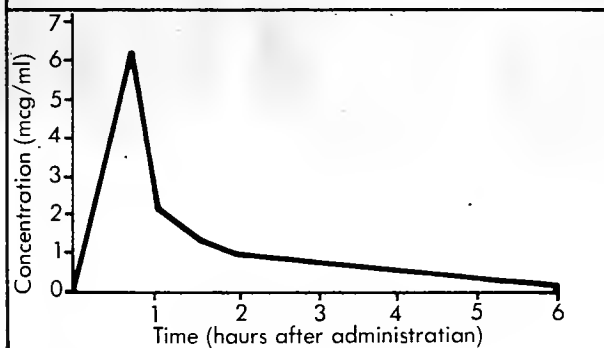
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Half the dose  
is absorbed in 9 minutes!  
compared to 32 minutes for ampicillin.\*



Mean blood levels in mcg/ml after 250 mg cyclacillin single oral dose



- Rapid, virtually complete absorption from GI tract
- Exceptionally high peak blood levels – 3 times greater than ampicillin (Clinical efficacy may not always correlate with blood levels.)
- Rapidly excreted unchanged in urine – 1½ times faster than ampicillin

\*Based on  $T^{1/2}$  values for single oral doses of 500 mg cyclacillin tablet and 500 mg ampicillin capsule. Data on file, Wyeth Laboratories.

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Fewer episodes of diarrhea and rash than with ampicillin in studies to date.

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In 117 patients, 73 with bronchitis/pneumonia caused by *S. pneumoniae* and 44 with streptococcal sore throat caused by Group A beta-hemolytic streptococcus, CYCLAPEN®-W achieved a clinical response rate of 100%! Bacterial eradication was 95% and 86% respectively.

†Due to susceptible organisms.

See important information on facing page.

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125 and 250 mg per 5 ml Suspension

more than just spectrum

NEW  
NAME

Values. "Ethical and Social Issues in Reproductive Biology" was the theme for the meeting held in Norfolk, Va., March 26-27.

#### News Notes from the

### UNIVERSITY OF NORTH CAROLINA- CHAPEL HILL SCHOOL OF MEDICINE AND NORTH CAROLINA MEMORIAL HOSPITAL

The School of Medicine's division of neurosurgery has received a five-year, \$900,000 contract to evaluate the effectiveness of the newest therapies for malignant brain tumors.

The National Cancer Institute selected UNC-CH as one of only two new participants in its Brain Tumor Study Group and one of only seven institutions in the United States to receive funding through 1985.

Dr. M.S. Mahaley Jr., professor and chief of neurosurgery, said the funds will be used to pay for support personnel, chemotherapy, laboratory tests, data processing and patient care items not already provided by the Clinical Research Unit at N.C. Memorial Hospital.

"During the past few years, the university has become a major brain tumor referral center, and we are now treating over 90 patients from North Carolina and neighboring states," Mahaley said. "A large part of the success we've had has resulted from the great cooperation given us by neurosurgeons, oncologists and radiotherapists who have referred patients to us.

"We're very grateful to these physicians and, of course, to the patients and their families whom we try to provide with a therapeutic experience that is both effective and supportive."

Mahaley and his colleagues are treating two groups of patients — those who, following surgery, have just been diagnosed as having malignant brain tumors and those who are discovered later to have recurrence of their illness. Specific treatments are based on tumor type and location.

Collaborating with Mahaley in the research and treatment effort are Drs. Gustavo Montana, professor and director of radiation therapy; Robert A. Whaley, associate professor of radiology; and Martin R. Krigman, professor of neuropathology.

Other members of the National Cancer Institute's Brain Tumor Study Group are Memorial Sloan-Kettering Cancer Institute, New York University and the universities of Indiana, Iowa, Pittsburgh and Tennessee.

\* \* \*

The North Carolina Jaycee Burn Center at N.C. Memorial Hospital opened February 23 when the five

patients in the hospital's old burn unit were moved into the new \$2.3 million facility.

"This is the day that thousands of people across this state have prayed for and worked toward for so long," said Dr. Roger Salisbury, Burn Center director. He noted that North Carolinians have contributed almost \$2 million to help build the burn center and to support its patient care, research and educational activities.

"We have been promising to provide the most expert, comprehensive care for North Carolinians who are critically burned, in a modern facility that is second to none," Salisbury said. "Today we start making good on that promise."

The new burn center has 23 patient beds, but not all of them will be used immediately, according to Salisbury. The number of patients admitted to the burn center will increase gradually over the next few months as additional nurses and support personnel are hired and trained. Eventually the burn center will have a staff close to 200.

The burn center occupies 18,000 square feet of space on the fifth floor of the new Patient Support Tower at N.C. Memorial Hospital. Unique features include a special operating room and recovery room, mobile x-ray equipment, temperature and humidity controls for each patient's room, diagnostic and research laboratories, a children's playroom and a small chapel.

\* \* \*

Dr. Yung-Chi Cheng, professor of pharmacology and medicine and member of the Cancer Research Center, received one of the three awards presented annually by the American Association for Cancer Research.

Cheng, head of the Cancer Research Center's drug development program, received the second Rhodes Memorial Award at the association's April meeting in Washington, D.C.

The award is given in recognition of meritorious achievement in cancer research. It honors Dr. C. P. Rhodes, a founder and first director of the Sloan-Kettering Institute for Cancer Research. Nominations are made by association members.

A Taiwan native, Cheng came to the University of North Carolina at Chapel Hill in 1978 to head the drug development program in the Cancer Research Center, a part of the School of Medicine. Before coming to Chapel Hill, he was principal cancer research scientist at Roswell Park Memorial Institute in Buffalo, N.Y., and postdoctoral fellow in the laboratory of Dr. William Prusoff at Yale University School of Medicine.

He earned his B.S. in chemistry from Tunghai University in Taiwan and his Ph.D. in biochemical pharmacology from Brown University in Rhode Island.

\* \* \*

The School of Medicine honored seven individuals March 20 for their contributions to medical education and health care.

Six Distinguished Service Awards and one Distinguished Faculty Award were presented at the annual awards banquet of the Medical Alumni Association.

Distinguished Service Awards, the School of Medicine's highest honors, were presented to: Jane Harris Armfield of Greensboro, a member of the boards of Moses Cone and N.C. Memorial hospitals; Rep. James T. Broyhill of North Carolina's 10th Congressional District; Dr. John L. McCain, a Wilson physician; Dr. Hubert C. Patterson Jr., of Chapel Hill, a retired UNC-CH medical faculty member; and Dr. Robert W. Winters, professor of pediatrics, Columbia University College of Physicians and Surgeons. The late Dr. Samuel R. Newman, a Danville, Va., civic leader and pediatrician, received the award posthumously.

The Medical Alumni Association presented its Distinguished Faculty Award to Dr. Janet J. Fischer, Sarah Graham Kenan professor of medicine.

"The Distinguished Service Award was established in 1955 to recognize individuals whose outstanding careers and important contributions have enhanced the fullness of life in relation to the program of the university and its medical school," said Dr. Stuart Bondurant, dean of the School of Medicine, who presented the awards.

The Distinguished Faculty Award was presented to Fischer by Dr. William B. Blythe, professor of medicine at UNC-CH and president of the Medical Alumni Association.

He cited the extensive impact of her teaching in internal medicine and infectious disease on generations of North Carolina physicians.

"Dr. Fischer has long been respected as a teacher with intense devotion to each patient and to each student," he said. "She has served as a model of the successful woman physician, and she has helped hundreds of women to become competent and caring physicians."

Fischer joined the UNC-CH faculty in 1952. She received her A.B. degree from Vassar College and her M.D. from the Johns Hopkins University.

\* \* \*

Dr. William Bowers, associate professor of surgery at the University of North Carolina at Chapel Hill School of Medicine, has been selected as the first Sterling Bunnell Traveling Fellow in Hand Surgery by the American Society for Surgery of the Hand.

Bowers is chief of hand surgery in the medical school's division of orthopaedic surgery. A Polk County native, he joined the faculty in 1973.

As part of the fellowship program, he will spend six to eight weeks this summer visiting some of the major centers for hand surgery in the world.

The fellowship is named in honor of Dr. Sterling Bunnell, generally recognized as the father of hand surgery. According to the society, the fellowship will be awarded annually to a surgeon with proven excellence in the practice and teaching of hand surgery.

The discipline combines orthopaedic, general, mi-

crovascular and plastic surgery techniques in dealing with upper extremity injury and disease.

\* \* \*

Emergency room physicians and nurses from various parts of the state came to Chapel Hill recently for intensive training in the diagnosis and treatment of trauma victims.

The three-day course was the first of its kind offered in this state. It was sponsored by the North Carolina Committee on Trauma and the Trauma Center at North Carolina Memorial Hospital and the School of Medicine.

The course was designed by the American College of Surgeons to train emergency room personnel to determine how badly trauma victims are injured, to initiate the treatment needed to keep them alive and stabilize their conditions and to recognize when patients need to be referred to a major trauma center.

Dr. Herbert Proctor, director of the Trauma Center at N.C. Memorial Hospital, said the 16 physicians and four nurses participating in the course were also being trained to conduct similar courses for emergency room personnel in their own areas.

Proctor said it would be desirable for emergency room staffs in every hospital to have some training and experience in trauma care, noting that "trauma is still

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\* \* \*

The Department of Family Medicine in the University of North Carolina at Chapel Hill School of Medicine is providing guidance and training support for establishment of some of the first family medicine training programs in South America.

Two leading physicians and health administrators from Venezuela are serving six-month fellowships in family medicine here to gain expertise in faculty development and medical training administration.

Upon returning to Venezuela this summer, Dr. Luis Wanderlinder will become head of the newly formed Department of Family Medicine at the University of Zulia in Maracaibo, the first of its kind in South America. Dr. Raphael Anselmi will return to Caracas as director of the first family medicine residency program in that city and only the second in Venezuela. Dr. John Frey, director of faculty development for the UNC-CH Department of Family Medicine, explained that the establishment of educational and training programs in family medicine is part of an overall plan to reorganize Venezuela's national health care system.

"This interest in family medicine reflects a desire to move away from a system in which there are so many specialists who just concentrate on one area of medicine," Frey said. "They want to have more health care generalists who will have status, training and credibility."

The fellowship program in which the Venezuelans are participating is a pilot program funded by a grant from the Kellogg Foundation. The grant was secured and the program developed through the joint efforts of the Society of Teachers of Family Medicine and the Pan American Federation of Association of Medical Schools.

Dr. Edward Shahady, chairman of family medicine at UNC-CH, is currently the national president of the Society of Teachers of Family Medicine and was instrumental in the establishment of these fellowship programs.

\* \* \*

The appointments of a professor and an assistant professor in the School of Medicine have been announced by Chancellor Christopher C. Fordham III.

Dr. Frederic B. Askin has been appointed professor in the Department of Pathology, and Dr. James B. Hall has been appointed assistant professor in the Department of Obstetrics and Gynecology.

Askin, whose appointment was effective April 1, has been associate professor since 1979 at Washington University in St. Louis.

He is a member of the American Association of Pathologists, the International Academy of Pathology, the American Society of Clinical Pathologists, the American Thoracic Society, the Pediatric Pathology Club and the International Association of OB-GYN Pathologists.

A native of Richmond, Va., he received his A.B. in 1960 and his M.D. in 1964 from the University of Virginia.

Hall, whose appointment was effective Feb. 15, has been a visiting assistant professor at UNC-CH since July. Before coming here, he was an instructor at Harvard Medical School and gynecology/oncology fellow at Massachusetts General Hospital from 1978-1980. He was chief resident and senior clinical instructor at Miami Valley Hospital in Ohio from 1977-1978.

He is a junior fellow of the American College of Obstetrics and Gynecology and a member of the American Medical Association and the American Association of Gynecologic Laparoscopists.

A native of Dayton, Ohio, Hall received his A.B. in 1969 from Taylor University in Indiana and his M.D. in 1974 from the Medical University of South Carolina.

\* \* \*

Chancellor Christopher C. Fordham III received the N.C. Academy of General Dentistry's Distinguished Service Award Feb. 21.

Fordham is the sixth recipient of the award and the first M.D. He was honored for his support of the UNC-CH School of Dentistry and of the state's general practitioners of dentistry and medicine.

\* \* \*

The North Carolina Jaycee Burn Center at N.C. Memorial Hospital was well represented at April's annual meeting of the American Burn Association in Washington, D.C. Staff members presented six papers representing a broad range of topics concerning the treatment of burn patients. Following is a list of papers presented:

"Therapeutic Play Activities for Pediatric Burn Patients," Elizabeth Shute Cozart, coordinator of children's services in recreation therapy;

"Area Burn Education Program" Nancy Newman, head nurse, burn center;

"Evaporative Water Loss in Healed Skin Burns," Rebecca W. Carnes, nurse clinician, skin bank;

"The Importance of Collaborative Research in a Burn Center," Barbara Bunker, assistant professor, School of Nursing;

"Effect of Viable Versus Nonviable Skin Grafts on Macromolecular Synthesis in Wound Tissue," Albert J. Banes, assistant professor of surgery;

"The Cobra Splint: An Alternative to Pin Traction in Post Grafting Positioning of the Circumferentially Burned Upper Extremity," Sandy Reeves, occupational therapy.

\* \* \*

Directors of Muscular Dystrophy Association clinics from Maryland to South Carolina met at Chapel Hill March 14-15 to review and discuss the latest methods of caring for children with MD and related disorders.

Their program emphasized practical approaches to patient management.

The MDA Clinic Directors Conference for the mid-atlantic states was chaired by Drs. Colin D. Hall and James F. Howard Jr., directors of the MDA clinic at North Carolina Memorial Hospital.

\* \* \*

Dr. Joseph S. Pagano, professor of medicine and bacteriology and director of the Cancer Research Center, was a visiting lecturer at the Society of Fellows of Scripps Clinic and Research Foundation, Feb. 3 in La Jolla, Calif. He also participated in a meeting on Recent Progress in Diagnostic Laboratory Immunology Feb. 5 in San Diego, Calif.

\* \* \*

Dr. James H. Scatliff, chairman of radiology, made a presentation at the Southern Pediatric Radiology Society meeting, Feb. 5-8, in Charleston, S.C.

\* \* \*

Marlys M. Mitchell, professor and director of the division of occupational therapy, participated in a Learning Dynamics Inc., Institute seminar Feb. 9-10 in Atlanta.

\* \* \*

Dr. Gustavo S. Montana, professor and director of radiation therapy, was a visiting professor at the Bowman Gray School of Medicine Feb. 18-19 in Winston-Salem. He lectured on "Carcinoma of the Cervix Stage IB, Results of Radiation Therapy."

\* \* \*

Donald M. Cassata, associate professor of family medicine, attended a three-day meeting sponsored by the Society of Teachers of Family Medicine Feb. 23-25 in Kansas City. The title of the conference was "The Family in Family Medicine Curriculum."

\* \* \*

Dr. William B. Wood, director of continuing education and alumni affairs, was a North Carolina delegate to the southeastern regional meeting of the American Society of Internal Medicine in New Orleans March 5-8. Wood is vice president-elect of the N.C. Society of Internal Medicine.

\* \* \*

Dr. George Johnson, professor and vice chairman of surgery, was elected secretary-treasurer of the Southern Association for Vascular Surgery at its annual meeting Jan. 29-Feb. 1 in Dorado Beach, Puerto Rico.

\* \* \*

Dr. Herbert J. Proctor, professor of surgery, presented two papers titled "Alveolar Osmotic Gradients in Adult Respiratory Distress Syndrome" and "In Vivo Spectrophotometric Monitoring of Cytochrome

Redox State" while acting as visiting professor Feb. 7-15 at State University of Groningen, the Netherlands.

#### News Notes from the—

### DUKE UNIVERSITY MEDICAL CENTER

Scientific sessions and tributes to a well-known Duke physician and administrator were featured at the R. T. Parker Symposium April 2-4 in the Research Triangle Park. The event honored Dr. Roy T. Parker, chairman of the Department of Obstetrics and Gynecology at Duke University Medical Center from 1964 until his retirement last year. Parker remains an active member of the staff at Duke.

Sponsors of the symposium were the department and the F. Bayard Carter Society, a group made up of approximately 150 physicians trained in the OB-GYN department at Duke and named for the first professor in the department.

All 24 sessions of the symposium were led by Duke-trained physicians, including seven who are department chairmen at other institutions.

\* \* \*

Scientists at the Duke University Eye Center have invented a new forceps with diamond-coated jaws capable of removing any object from the eye, regardless of the size, shape or material of the object. The key to the ingenious new forceps is the coating of



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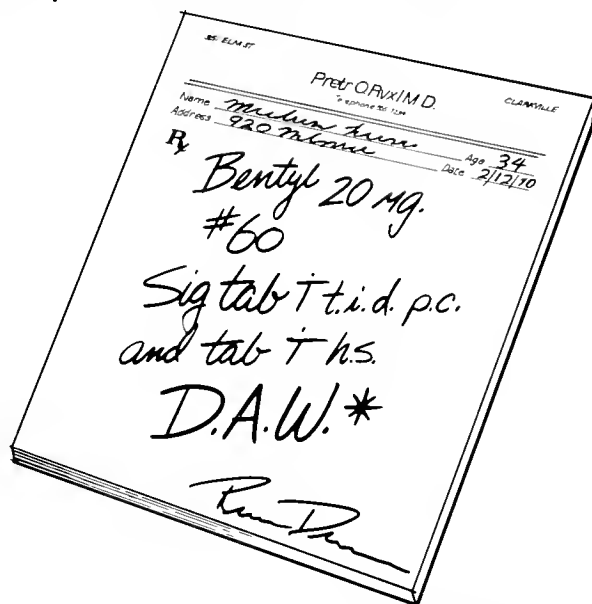


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- ⊗ Pharmacologic effect in the distal colon compared to placebo<sup>††</sup> shows how Bentyl affects abnormal motor activity in the irritable colon patient.<sup>†</sup>

<sup>†</sup>This drug has been classified "probably" effective for this indication.

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<sup>††</sup> In the experiments that showed significant pharmacologic effect, the dose of Bentyl used was 50 mg. I.M., which is higher than that permitted in the labeling. This dose was deemed justified since the recommended daily dose of injectable Bentyl is 20 mg. (2 ml.) every 4 to 6 hours. Thus, in 8 hours, a patient could receive a total of 60 mg. I.M. and at that time, as a result of the sustained plasma levels from the 20 mg. injections at 0 and 4 hours, might show an even higher plasma level that occurs after a single 50 mg. I.M. dose. Presumably, the same pharmacologic effect would follow. These observations do not constitute evidence of efficacy.

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THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS.  
For use in the treatment of infant colic (syrup).  
Final classification of the less-than-effective indications requires further investigation.

**CONTRAINDICATIONS:** Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy); obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis); paralytic ileus, intestinal atony of the elderly or debilitated patient; unstable cardiovascular status in acute hemorrhage; severe ulcerative colitis; toxic megacolon complicating ulcerative colitis; myasthenia gravis.

**WARNINGS:** In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. There are rare reports of infants, 6 weeks of age and under, administered dicyclomine hydrochloride syrup, who have evidenced respiratory symptoms (breathing difficulty, shortness of breath, breathlessness, respiratory collapse, apnea), as well as seizures, syncope, asphyxia, pulse rate fluctuations, muscular hypotonia, and coma. The above symptoms have occurred within minutes of ingestion and lasted 20 to 30 minutes. The timing and nature of the reactions suggest that they were a consequence of local irritation and/or aspiration rather than a direct pharmacologic effect. No known deaths or permanent adverse effects have been reported. Bentyl syrup should be used with caution in this age group.

**PRECAUTIONS:** Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy.

Use with caution in patients with:

Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon.

Hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension.

Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur.

**ADVERSE REACTIONS:** Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia, urinary hesitancy and retention; blurred vision and tachycardia; palpitations; mydriasis; cycloplegia; increased ocular tension; loss of taste; headache; nervousness; drowsiness; weakness; dizziness; insomnia; nausea; vomiting; impotence; suppression of lactation; constipation; bloated feeling; severe allergic reaction or drug idiosyncrasies including anaphylaxis; urticaria and other dermal manifestations; some degree of mental confusion and/or excitement, especially in elderly persons; and decreased sweating. With the injectable form there may be a temporary sensation of light-headedness and occasionally local irritation.

**DOSEAGE AND ADMINISTRATION:** Dosage must be adjusted to individual patient's needs.

## Usual Dosage

Bentyl 10 mg. capsule and syrup: Adults: 1 or 2 capsules or teaspoonful syrup three or four times daily. Children: 1 capsule or teaspoonful syrup three or four times daily. Infants: ½ teaspoonful syrup three or four times daily. (Dilute with equal volume of water.)

Bentyl 20 mg.: Adults: 1 tablet three or four times daily.

Bentyl Injection: Adults: 2 ml. (20 mg.) every four to six hours intramuscularly only.

## NOT FOR INTRAVENOUS USE

**MANAGEMENT OF OVERDOSE:** The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanechol chloride USP) should be used.

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diamond splinters on its two parallel jaws, said Dr. Robert Machemer, director of the center and professor and chairman of the Department of Ophthalmology at Duke.

"Because diamonds are one of the hardest materials in existence, their splinters will dig into the surface of any material," he said. "Thus, they can firmly hold a round object or an irregularly shaped one, a tiny grain of sand, or a steel ball bearing."

Machemer is a pioneer in the development of the technique.

His colleagues in developing the all-purpose forceps were: Dyson Hickingbotham of the Ophthalmology Biophysics Research Laboratory at Duke, and Jean-Marie Parel of the Bascom Palmer Eye Institute of the University of Miami Medical School.

\* \* \*

A statewide public symposium on Huntington's Disease was held April 11 at Duke University Medical Center. Huntington's Disease, the most famous victim of which was folksinger Woody Guthrie, is a progressive brain disorder—genetic and presently incurable—that affects about 15,000 persons in the United States.

Marjorie Guthrie, widow of Guthrie, was a featured speaker at the symposium. She is founder and president emeritus of the Committee to Combat Huntington's Disease.

Also taking part was Dr. Ara Tourian, who said researchers are intensely interested in the disease because they believe it may unlock the secrets of the mechanisms of other genetic neurological disorders. Tourian is associate professor in the Department of Neurology of Duke University Medical Center. "At present, science doesn't understand fully any dominant-gene neurological diseases," he said. "Our hope is that Huntington's Disease can teach us about others."

The symposium, funded by the Belk-Tyler Foundation, was sponsored by the Committee to Combat Huntington's Disease and the N.C. Epsilon Chapter of Alpha Epsilon Delta, a premedical honor society at East Carolina University.

\* \* \*

Health educators and administrators from 10 nations met April 22-25 at Duke University Medical Center for a "Conference on the Role of the University Teaching Hospital: An International Perspective." The conference was held in conjunction with dedication ceremonies for the new North Division of Duke University Hospital.

Sponsors of the event were the Josiah Macy, Jr., Foundation of New York, and the medical center.

The president of the Macy Foundation, James G. Hirsch, presided over the opening session and the opening address. "The Challenge of Developing, a New Tertiary Care Hospital of the 1980s," was given

by Dr. William G. Anlyan, vice president for health affairs at the medical center.

\* \* \*

The Duke University Medical Center is using a gas chromatograph mass spectrometer purchased with the approximately \$100,000 raised by the 1980 Duke Children's Classic Golf and Tennis Tournament. The machine, located in the pediatric metabolism division at the medical center, is used to screen, diagnose and help plan management of metabolic disorders of children. "With the spectrometer, we can obtain a definitive identification of any organic compound with more than one atom," said Dr. Charles Roe, chief of the pediatrics metabolism division. Roe said the spectrometer also is useful in identifying toxins in the body and in his unit's long-range work with patients with Reye's Syndrome.

\* \* \*

Some of the world's leading eye surgeons met April 10-11 at Duke to exchange ideas on vitreous surgery, one of the fastest-developing areas of ophthalmology. The Advanced Vitreous Surgery Course was presented by the Eye Center, whose director is Dr. Robert Machemer, chairman of the Department of Ophthalmology.

Machemer served on the conference faculty, along with Drs. Maurice Landers and Brooks McCuen, both on the ophthalmology faculty.

\* \* \*

The new North Division of Duke University Hospital was dedicated Saturday, April 25, making the conclusion of the medical center's celebration of its fiftieth year. Speaker at the dedication was Steven Muller, president of The Johns Hopkins University and the Johns Hopkins Hospital. Muller is the only person in this century to hold both presidencies at the Baltimore institution.

Presiding over the ceremonies was Dr. William G. Anlyan, vice president for health affairs at Duke. Terry Sanford, president of Duke University, made remarks and introduced the speaker.

Remarks also were given by: Archie K. Davis, chairman of the board of the Duke Endowment; Dr. David C. Sabiston, Jr., chief of staff of Duke University Hospital; Dr. Roscoe R. Robinson, associate vice president and chief executive office of Duke University Hospital; and J. Alexander McMahon, chairman of the board of trustees of Duke University.

\* \* \*

Bernice Neugarten, deputy chairman of the 1981 White House Conference on Aging, lectured on "Aging Policies of the 1980s" on April 14 at Duke University Medical Center. Neugarten is professor of education in the Department of Sociology at Northwestern University and was a founding member of the National Advisory Council of the National Institute on Aging. She is a recipient of the distinguished re-

search award of the Gerontological Society. Her lecture was presented by the Duke University Council on Aging and Human Development and the Carter Lectureship of the School of Nursing.

\* \* \*

James E. Lowe, in the Department of Surgery, was awarded a five-year Established Investigatorship from the American Heart Association. Harris is studying "Detection of Ischemic Injury During Cardiac Operations."

\* \* \*

Daniel B. Menzel, professor in the Department of Pharmacology and associate professor in the Department of Medicine was awarded a \$43,006 research grant from the National Institute of Environmental Health Sciences for the study of "Absorption of Inhaled Sub-Micron Trace Metals."

Wilkie A. Wilson, adjunct assistant professor in the Department of Pharmacology, received a \$25,582 grant from the National Institute of Neurological and Communicative Disorders and Stroke for "Control of Neuronal Firing by Adaption."

\* \* \*

Robert H. Harris, assistant professor in the division of nephrology, received a continuation of his Established Investigatorship grant from the American Heart Association. Harris' grant is titled "Urinary Factors Influencing Renal Function and Growth."

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David J. Robertson, James B. Duke Professor in the Department of Anatomy, received a \$151,035 grant from the National Institute of General Medical Sciences for biological membrane studies.

\* \* \*

John W. Moore, professor in the Department of Physiology, was awarded an \$82,125 grant from the National Institute of General Medical Sciences for the study of biological systems. Dr. Moore also received a \$66,662 grant from the National Institute of Neurological and Communicative Disorders and Stroke for "Computer Methods for Physiological Problems."

\* \* \*

James F. Gifford, Jr., associate professor of community and family medicine, has been awarded \$78,350 by the Duke Endowment for projects relating to the history of health care in North Carolina.

\* \* \*

Raymond E. Ideker, assistant professor in the Department of Pathology, received a \$39,329 grant from the National Heart, Lung, and Blood Institute for a "Computerized Study of Arrhythmias Due to Ischemia."

\* \* \*

Patrick A. McKee, professor in the division of general medicine, was awarded a \$91,588 grant from the National Heart, Lung, and Blood Institute for "Structure-function Studies of Human Factor VIII/VWF."

\* \* \*

Robert A. Rosati, associate professor in the division of cardiology, was awarded an \$807,240 grant from the National Heart, Lung, and Blood Institute for the study of "Ischemic Heart Disease Specialized Center of Research."

\* \* \*

William S. Lynn, Jr., professor in the division of pulmonary medicine, received a \$54,311 grant from the National Institute of Environmental Health Sciences for the study of "Silicate, Pulmonary Secretions and Lung Disease."

\* \* \*

Erdman B. Palmore, professor in the division of community and social psychology, received a \$75,156 grant from the National Institute on Aging to study "Determinants and Consequences of Retirement."

\* \* \*

David W. Schomberg, associate professor of obstetrics, gynecology and physiology, received a \$104,582 grant from the National Institute of Child Health and Human Development. Schomberg is studying "Gonadotropin Receptor Regulation In Vitro and In Vivo."

Allen D. Roses, professor in the division of neurology, was awarded a \$47,066 grant from the National Institute of Neurological and Communicative Disorders and Stroke for the study of "Isolated Membrane Glycoproteins."

Wilkie A. Wilson, assistant medical research professor of medicine, received a \$25,582 research grant from the National Institute of Neurological and Communicative Disorders and Stroke. Wilson is studying "Control of Neuronal Firing by Adaptation."

\* \* \*

Elmer Rauckman, assistant medical research professor of surgery and pharmacology, and Gerald Rosen, associate professor of pharmacology, have received a \$90,955 contract from the Army Research Office for a study of "Lipid Autoxidation: Development and Application of Spin Trapping Techniques to Mechanistic Studies."

\* \* \*

James R. Urbaniak, professor of surgery, received a \$110,974 grant from the National Institute of General Medical Sciences. Urbaniak is studying "Tissue Injury, Revascularization and Transplantation."

\* \* \*

F. Stephen Vogel, professor of pathology, was awarded a \$65,681 national research service award from the National Institute of Aging. Vogel will apply the money toward study of biological approaches to dementia.

\* \* \*

Alan D. Magid, research associate of anesthesiology, received a \$72,796 grant from the National Institute of Arthritis, Metabolism and Digestive Diseases. Magid will use the money to support research of "Third Filament of Striated Muscle."

\* \* \*

Michael S. Hershfield, assistant professor of physiology, received a \$38,362 grant from the National Institute of Arthritis, Metabolism and Digestive Diseases. Hershfield is studying "A Lymphoblast Model for Disease of Purine Metabolism."

\* \* \*

Sheldon R. Pinnell, professor in the division of dermatology, was awarded a \$89,597 research grant from the National Institute of Arthritis, Metabolism and Digestive Diseases to study "Collagen Biosynthesis in Human Skin Fibroblasts."

\* \* \*

James L. Parmentier, assistant medical research professor in anesthesiology, received a \$74,118 grant from the National Institute of General Medical Sciences to study "Mode of Action of Volatile Anesthetics."

Frederick H. Schachat, assistant professor of anatomy, received a \$38,103 research grant from the National Institute of Neurological and Communicative Disorders and Stroke. Schachat is studying the molecular biology of muscle.

\* \* \*

J. Victor Nadler, assistant professor in the Department of Pharmacology, received a \$47,993 grant from the National Institute of Neurological and Communicative Disorders and Stroke. Nadler is studying "Excitatory Amino Acid Transmitters in CNS."

\* \* \*

Daniel L. Clarke-Pearson, assistant professor in the Department of Obstetrics and Gynecology, was awarded a Junior Faculty Clinical Fellowship by the American Cancer Society.

\* \* \*

Dr. Elmer Rauckman, assistant medical research professor of surgery and pharmacology, has been invited to present a paper on "Free Radical Aspects of Cocaine Metabolism and Toxicity: at the Fifth International Symposium on Microsomes and Drug Oxidation in Tokyo this July.

#### News Notes from the—

### BOWMAN GRAY SCHOOL OF MEDICINE WAKE FOREST UNIVERSITY

Dr. Stanley P. Bohrer, professor of radiology, and Dr. H. Bradley Wells, professor of biostatistics, have been appointed to the faculty of the Bowman Gray School of Medicine.

They are among seven new members of the medical school's fulltime faculty. Six people have been appointed to the part-time faculty.

Dr. Bohrer served for 10 years as professor and head of the Department of Radiology at the University of Ibadan, Nigeria. More recently, he was program director for Project Hope in Colombia, South America and in Quezaltenango, Guatemala.

His research interests include bone aging and the diseases found in developing countries.

Dr. Wells, a professor emeritus of biostatistics at the University of North Carolina School of Public Health, will work with Bowman Gray's Department of

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J.C.A.H. ACCREDITED

Family and Community Medicine and will serve as senior biostatistician in the Cancer Research Center.

He has served as chief statistician for the Georgia Department of Health and was assigned as the Ford Foundation resident advisor to the Registrar General of India from 1964-66.

His particular interests are with population and demographic studies and in the design and analysis of clinical trials.

Others appointed to the fulltime faculty are Dr. Charles J. Kovacs and Dr. Charles W. Scarantino, associate professors of radiology; Dr. Ernest H. Kawamoto, assistant professor of pathology; Kenneth R. Blanton, instructor in allied health (physician assistant program); and Dr. Jose Biller, instructor in neurology.

Appointed to the part-time faculty are Dr. Martin G. Begley, clinical instructor in radiology; Gale L. Harkness and Martha Ann Kilby, clinical instructors in allied health (physician assistant program); Dr. William B. Jones II, clinical instructor in surgery (emergency medicine); Dr. Robert E. Klein, clinical associate professor of pathology; and Dr. Robert M. Ross, clinical instructor in pediatrics.

\* \* \*

Dr. Ward A. Riley's research might seem just a bit exotic to some as he goes about using light to see sound which humans cannot hear.

But Riley, a research assistant professor of neurology at Bowman Gray, does have a practical purpose behind his light-sees-sound research. He expects that the work will lead to the development of a practical instrument to aid in assuring the quality of high frequency sound (ultrasound) used in diagnosing and treating disease.

His work is supported by a three-year, \$200,000 grant from the National Institute of General Medical Sciences.

What Riley is developing is an instrument which will provide a better measurement of the intensity of an ultrasound beam as well as a means of getting a picture of the ultrasound pattern. Riley considers current methods of evaluating an ultrasound beam as being not very accurate and as being capable of disturbing the sound-wave pattern which they are supposed to measure.

For Riley, light is the ideal way of visualizing a sound pattern because it does not disturb the pattern. He uses a laser in his research.

His intent ultimately is to have the technology for testing an ultrasound beam in a small and light-weight form for use throughout a hospital.

\* \* \*

Dr. Kenneth A. Gruber, research assistant professor of medicine at Bowman Gray, has been awarded an American Society of Nephrology Travel Award.

The \$1,000 award is intended to permit Gruber to attend the 8th International Congress of Nephrology in Athens, Greece.

During the meeting, Gruber will present a scientific paper describing Bowman Gray research which has resulted in the discovery of a hormone, endoxin, now thought to be related to the most common form of high blood pressure.

\* \* \*

Dr. James F. Martin, professor of medical sonics at Bowman Gray, is the 81st president of the American Roentgen Ray Society (ARRS).

He was installed at the society's annual meeting in San Francisco. He succeeds Dr. Joseph D. Calhoun of Little Rock, Ark.

Dr. William M. McKinney, professor of neurology at Bowman Gray, was the Caldwell Lecturer at the ARRS meeting. He spoke on "Neurosonology."

The Caldwell Lectureship, which also includes the presentation of the Caldwell Medal, was established in 1920 by the ARRS in memory of Dr. Eugene Wilson Caldwell, who is considered the father of American roentgenology.

The ARRS is the oldest radiological organization in the western hemisphere. It has a worldwide membership of 1,500 radiologists, other physicians and scientists.

Martin served as secretary of the ARRS for several years before being elected president-elect last year. His presidential address was entitled, "The Radiology Shop."

\* \* \*

Harriett Faulkner, director of the Office of Minority Affairs at Bowman Gray, has been re-elected treasurer and has received an award of recognition of her services during the fifth annual meeting of the Southern Region of the National Association of Medical Minority Educators.

\* \* \*

Dr. Frank R. Johnston, professor of surgery (cardiothoracic), has been elected first vice president of the Southeastern Surgical Congress at the organization's annual meeting in New Orleans.

\* \* \*

Dr. George Podgorny, clinical associate professor of surgery (emergency medicine), has been elected to the executive committee of the Board of Directors of the Emergency Medicine Foundation of Dallas, Tex.

\* \* \*

Dr. Earl Schwartz, assistant professor of surgery (emergency medicine), has been appointed an oral examiner for the American Board of Emergency Medicine.

#### AMERICAN ACADEMY OF FAMILY PHYSICIANS

Fifty-four North Carolina family physicians have become diplomates of the American Board of Family Practice by passing the 11th certification examination



given last July. They are Drs. Thomas T. Atkinson, William Glenn Aycock, Broadus Monroe Beeson, Mark Wilson Bennett, William C. Blackerby, George Wallace Brown, Harry Mario Coletta II, James M. Currin Jr., Allen Joe Dugird, George R. Everhart III, Robert H. Fabrey II, Joseph C. Fesperman Jr., Charles S. Finch, Ronald P. Fisher, Jerome Edward Groll, Kirk D. Gulden, Sanford D. Guttler, Jan Theodore Hahn, James H. Hampton, Clark B. Hanmer, Alfred R. Hansen, James Benford Hardin, Robert E. Harrell Jr., Jeffrey D. Harris, Douglas E. Henley, David Mark Hicklin, James Beatty Holt, David H. Hopper, Danny Edward Huntley, Pamela Kay H. Jesup, Eric Merriman Johnsen, Michael S. Kaplan, Albert Keith Kuhne, Robert Scott Lawrence, Gray Ira Levine, Mary Elizabeth Lyon, Jane McCaleb, Terry R. McGuinn, Lynn Carlsen Parker, Jesse Calvin Pittard, Ronald L. Plemmons, John Ross Purvis, Robert Leon Rhyne, John G. Roach III, Jessica Lee Schorr,

Richard K. Serra, John Braswell Smith Jr., David N. Spees, Alan Robert Storeygard, Michael R. Sunderman, John B. R. Thomas, John C. Vick, Matthew Bruce Vukoson, and Steven F. Wiegand.

#### AMERICAN COLLEGE OF CARDIOLOGY

Dr. C. Glenn Sawyer of Winston-Salem is among 19 prominent cardiovascular specialists elected to three-year terms on the board of governors of the 11,000-member American College of Cardiology, the national medical specialty society which represents cardiologists and cardiac surgeons. Each of the specialists will provide liaison between the membership in the geographic area in which he resides and the national organization based in Bethesda, Md. Sawyer will represent the state of North Carolina.

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#### Nephrotic Syndrome

The dropsy diffused through the cellular membrane, and in its progress usually involving the large cavities likewise, is a very common form of the disease. Its exciting causes are sometimes sufficiently remarkable, and where they can be readily ascertained, constitute a natural and useful distinction, of which I have availed myself in arranging the cases contained in this chapter.

One of these causes is scarlatina, which operates to a great extent in certain seasons; another is courses of mercury imprudently conducted, and perhaps aided by cold; a third the drinking of cold water, when heated; and I have reserved a fourth section for those cases, in which the exciting cause was not very obvious nor precise, but appeared connected with different circumstances of fatigue, cold, the use of strong liquors, visceral disease, or the injudicious employment of tonics.

In the histories themselves the general character of the urine is given, and the extent of its coagulation by heat. The occasional experiments, which I have tried with other chemical tests, are to prevent the necessity of repetition, placed together. I lament, undoubtedly, that they are so few and so limited, because the discharge of albumen by this unusual channel might probably be much illustrated, by ascertaining whether any saline matters were present, that particularly favored its solution. The complicated nature of that fluid, at all times, but especially in disease, seems to surround the subject with difficulties. — John Blackall, 1818.

# In Memoriam

## **JOHN C. REECE, M.D.**

Dr. John C. Reece of Morganton, a member of the Broughton Hospital medical staff, died Jan. 11 of heart disease.

Dr. Reece led in the development and operation of clinical laboratory services at Broughton and by his example and counsel provided encouragement and inspiration for countless other physicians, nurses, technicians, patients and others in human services. He also provided leadership in Red Cross work and blood banking in the Morganton area.

Dr. Reece had been president of the North Carolina Medical Society and a pioneer medical examiner. His death causes a sense of loss and sorrow and an appreciation of the high quality of the fellowship and professional services he provided.

Broughton Hospital, Morganton, N.C.

## **MARION BUTLER PATE, JR., M.D.**

Dr. Marion B. Pate, Jr., of Lumberton died Feb. 23 after a long illness.

Dr. Pate was born in Cumberland County on Oct. 12, 1922, the son of the late Marion and Ruth Townsend Pate. He graduated from Wake Forest University with a B.S. degree and from the Bowman Gray School of Medicine with an M.D. degree in 1945. He interned at Roper Hospital, Charleston, S.C., and the North Carolina Baptist Hospital in Winston-Salem. He was on active duty with the Air Force from 1946 to 1948 and remained in the active reserves, retiring with the rank of lieutenant colonel in 1972.

Dr. Pate practiced family medicine for 26 years in St. Pauls, N.C., and in Lumberton, and was the Robeson County health director from 1969 to 1974.

He was a Diplomate of the American Board of Family Practice and a Fellow of the American Academy of Family Practice. He was a member of the Robeson County Medical Society and the AMA, and was a charter member of the North Carolina Academy of Family Practice and was on the active staff of the Southeastern General Hospital in Lumberton. He had been president of the Robeson County Medical Society, mayor and a member of the town board of St. Pauls, a member of the board of education of the St. Pauls city schools and a trustee of the N.C. Cancer Institute at Lumberton. He was a member of the First Presbyterian Church of Lumberton.

He is survived by his wife, the former Thelma Faye Ray of Fayetteville, and two sons: Marion Butler Pate, III, a senior at the Bowman Gray School of Medicine, and Raymond G. Pate, a senior engineering student at N.C. State University. Other survivors include a sister, Mrs. Edna Neil Bishop of Fayetteville, and two brothers, Cary Pate of Fayetteville, and Lloyd Pate, M.D., of Fairmont.

Dr. Pate was dedicated and devoted to his profession and gave long and faithful service to the citizens of Robeson County. He loved his patients and gave unselfishly of his time and energy to their welfare. His patients honored and respected him as a physician and his fellow physicians deeply mourn his passing. He will be greatly missed by his profession and the people of Robeson County.

Robeson County Medical Society

# Classified Ads

**SITUATION WANTED:** Psychiatric Social Worker (ACSW) seven years post-masters experience working with couples, families, individuals in clinical setting. Supervised by psychiatrist seeks position with psychiatrist or family practice physicians located within one hours drive of Raleigh. Excellent references. Contact: NCMJ-1, P.O. Box 27167, Raleigh, N.C. 27611.

**TEXAS — IMMEDIATE OPENINGS** in Dallas for Ophthalmologist, ENT, and Perinatologist; General Practitioners needed in Austin. Also excellent openings for Family Practitioners, Internists, Orthopaedic Surgeons, OB/GYN, Pedis, and Neurologist in cities with 5,000-65,000 population near metroplex areas. Write Texas Doctors Group, Box 177, Austin, Texas 78767, (512) 476-7129.

**FOR SALE:** Complete top of the line Alma Desk Company office furniture. Executive and secretarial desk units; waiting room furniture; exam room furniture, including custom built, solid oak exam tables on rollers with 3 inch vinyl covered pads. All priced at ½ of purchase price. Call 919-471-4493 for complete list.

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**MEDICAL DIRECTOR —** Cumberland County Hospital System is seeking a physician to serve as Medical Director for its three facilities which include a 480 bed acute care hospital, a 98 bed acute care hospital and a 60 bed rehabilitation center. The individual must have broad experience in medical practice, teaching and/or administration with superior management capabilities. Responsibilities include maintenance of highest quality of medical care, evaluation of the performance and appointment of staff physicians, and review of budget requests for medical clinical services, medical education and research activities. Submit resume to: Dr. Assad Meymandi, Search Committee Chairman, Cumberland County Hospital System, Inc., P.O. Box 2000, Fayetteville, N.C. 28302.

**JULY 1, 1981, M.D. POSITION AVAILABLE, COASTAL COMMUNITY —** Excellent fishing, sailing, farming. Family Practitioner or Internal Medicine for medical office with 5,000 population. Practice is in its fourth year, new 7,500 sq. ft. facility, minor trauma, x-ray, lab, rescue squad, health department on site plus dental and home health. Contact: Director, HRHC, P.O. Box 194, Swan Quarter, NC 27885, Phone (919) 926-1501. Salary \$40,000.

**THREE BEDROOM MOUNTAIN FARMHOUSE** at 2,400 feet elevation, Floyd County, Virginia, close to Blue Ridge Parkway, .8 mile to nearest neighbor, four horses and tack, stocked one acre freshwater lake. June 1 to Labor Day — \$500 per week. Contact Junius E. Crowgey, M.D., 1314 Belle Aire Circle, S.W., Roanoke, Virginia 24018. Phone: (703) 774-5984.

**EMERGENCY PHYSICIAN:** Grow with expanding group in attractive coastal and mountainous locations. Full-time, part-time and locum tenens opportunities available. Excellent benefit package, including malpractice and professional enrichment. Group will provide backup for liberal vacation and meeting schedule, plus additional incentives. Directorships awarded. All inquiries confidential. Contact: Coastal Emergency Physicians, P. A., Dept. B, 3505 N. Roxboro Road, Durham, NC 27704, (919) 471-6482, in N.C. (800) 672-1665, Outside N.C. (800) 334-1630.

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**NORTH CAROLINA —** Family Practice/Emergency Medicine. Unique opportunity, immediate partnership available. Rapidly growing practice. Small hospital, rural area, two hours to Atlantic beaches. Starting from \$55,000 to \$60,000 guaranteed. Unlimited growth — excellent benefit package. Call or write about this excellent opportunity: Community Physicians, Inc. 113 Landmark Square, Virginia Beach, Virginia 23452 (804) 486-0844.

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James F. Emmert, Executive Director

Rex R. Taggart, M.D., Medical Director

# Valium® diazepam/Roche

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Management of anxiety disorders, or short-term relief of symptoms of anxiety, symptomatic relief of acute agitation, tremor, impending or acute delirium tremens and hallucinosis due to acute alcohol withdrawal, adjunctively in: relief of skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome. *Oral form* may be used adjunctively in convulsive disorders, but not as sole therapy. *Injectable form* may also be used adjunctively in: status epilepticus; severe recurrent seizures, tetanus, anxiety, tension or acute stress reactions prior to endoscopic/surgical procedures; cardioversion.

The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

**Contraindications:** Tablets in children under 6 months of age, known hypersensitivity, acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** As with most CNS-acting drugs, caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals (drug addicts or alcoholics) under careful surveillance because of predisposition to habituation/dependence.

**Usage in Pregnancy:** Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations, as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

**ORAL:** Advise patients against simultaneous ingestion of alcohol and other CNS depressants.

Not of value in treatment of psychotic patients; should not be employed in lieu of appropriate treatment. When using oral form adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication. abrupt withdrawal in such cases may be associated with temporary increase in frequency and/or severity of seizures.

**INJECTABLE:** To reduce the possibility of venous thrombosis, phlebitis, local irritation, swelling, and, rarely, vascular impairment when used I.V.: inject slowly, taking at least one minute for each 5 mg (1 ml) given, do not use small veins, i.e., dorsum of hand or wrist; use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute Valium with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.

Administer with extreme care to elderly, very ill, those with limited pulmonary reserve because of possibility of apnea and/or cardiac arrest, concomitant use of barbiturates, alcohol or other CNS depressants increases depression with increased risk of apnea, have resuscitative facilities available. When used with narcotic analgesic eliminate or reduce narcotic dosage at least 1/3, administer in small increments. Should not be administered to patients in shock, coma, acute alcoholic intoxication with depression of vital signs. Has precipitated tonic status epilepticus in patients treated for petit mal status or petit mal variant status. Not recommended for OB use.

Efficacy/safety not established in neonates (age 30 days or less), prolonged CNS depression observed. In children, give slowly (up to 0.25 mg/kg over 3 minutes) to avoid apnea or prolonged somnolence, can be repeated after 15 to 30 minutes. If no relief after third administration, appropriate adjunctive therapy is recommended.

**Precautions:** If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of Valium (diazepam/Roche), i.e., phenothiazines, narcotics, barbiturates, MAO inhibitors and antidepressants. Protective measures indicated in highly anxious patients with accompanying depression who may have suicidal tendencies. Observe usual precautions in impaired hepatic function; avoid accumulation in patients with compromised kidney function. Limit oral dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation (initially 2 to 2½ mg once or twice daily, increasing gradually as needed or tolerated).

**INJECTABLE:** Although promptly controlled, seizures may return; re-administer if necessary; not recommended for long-term maintenance therapy. Laryngospasm/increased cough reflex are possible during peroral endoscopic procedures, use topical anesthetic, have necessary countermeasures available. Hypotension or muscular weakness possible, particularly when used with narcotics, barbiturates or alcohol. Use lower doses (2 to 5 mg) for elderly/debilitated.

**Adverse Reactions:** Side effects most commonly reported were drowsiness, fatigue, ataxia. Infrequently encountered were confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances and stimulation have been reported, should these occur, discontinue drug. Because of isolated reports of neutropenia and jaundice, periodic blood counts, liver function tests advisable during long-term therapy. Minor changes in EEG patterns, usually low-voltage fast activity, have been observed in patients during and after Valium (diazepam/Roche) therapy and are of no known significance.

**INJECTABLE:** Venous thrombosis/phlebitis at injection site, hypotension, syncope, bradycardia, cardiovascular collapse, nystagmus, urticaria, hiccups, neutropenia.

In peroral endoscopic procedures, coughing, depressed respiration, dyspnea, hyperventilation, laryngospasm/pain in throat or chest have been reported.

**Dosage:** Individualized for maximum beneficial effect.

**ORAL—Adults:** Anxiety disorders, relief of symptoms of anxiety, 2 to 10 mg b.i.d. to q.i.d., acute alcohol withdrawal, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed, adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

**INJECTABLE:** Usual initial dose in older children and adults is 2 to 20 mg I.M. or I.V., depending on indication and severity. Larger doses may be required in some conditions (tetanus). In acute conditions injection may be repeated within 1 hour, although interval of 3 to 4 hours is usually satisfactory. Lower doses (usually 2 to 5 mg) with slow dosage increase for elderly or debilitated patients and when sedative drugs are added. (See Warnings and Adverse Reactions.)

For dosages in infants and children see below, have resuscitative facilities available.

**I.M. use:** by deep injection into the muscle.

**I.V. use:** inject slowly, take at least one minute for each 5 mg (1 ml) given. Do not use small veins, i.e., dorsum of hand or wrist. Use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute Valium with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.

Moderate anxiety disorders and symptoms of anxiety, 2 to 5 mg I.M. or I.V., and severe anxiety disorders and symptoms of anxiety, 5 to 10 mg I.M. or I.V., repeat in 3 to 4 hours if necessary; acute alcoholic withdrawal, 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary. Muscle spasm, in adults, 5 to 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary (tetanus may require larger doses); in children, administer I.V. slowly; for tetanus in infants over 30 days of age, 1 to 2 mg I.M. or I.V., repeat every 3 to 4 hours if necessary, in children 5 years or older, 5 to 10 mg repeated every 3 to 4 hours as needed. Respiratory assistance should be available.

Status epilepticus, severe recurrent convulsive seizures (I.V. route preferred), 5 to 10 mg adult dose administered slowly, repeat at 10- to 15-minute intervals up to 30 mg maximum. Repeat in 2 to 4 hours if necessary keeping in mind possibility of residual active metabolites. Use caution in presence of chronic lung disease or unstable cardiovascular status. *Infants (over 30 days) and children (under 5 years),* 0.2 to 0.5 mg slowly every 2 to 5 min., up to 5 mg (I.V. preferred). *Children 5 years plus,* 1 mg every 2 to 5 min., up to 10 mg (slow I.V. preferred), repeat in 2 to 4 hours if needed. EEG monitoring may be helpful.

In endoscopic procedures, titrate I.V. dosage to desired sedative response, generally 10 mg or less but up to 20 mg (if narcotics are omitted) immediately prior to procedure, if I.V. cannot be used, 5 to 10 mg I.M. approximately 30 minutes prior to procedure. As preoperative medication, 10 mg I.M.; in cardioversion, 5 to 15 mg I.V. within 5 to 10 minutes prior to procedure. Once acute symptomatology has been properly controlled with injectable form, patient may be placed on oral form if further treatment is required.

**Management of Overdosage:** Manifestations include somnolence, confusion, coma, diminished reflexes. Monitor respiration, pulse, blood pressure, employ general supportive measures, I.V. fluids, adequate airway. Use levaterenol or metaraminol for hypotension. Dialysis is of limited value. **Supplied:** Tablets, 2 mg, 5 mg and 10 mg, bottles of 100 and 500, Tel-E-Dose<sup>®</sup> (unit dose) packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10, Prescription Packs of 50, available in trays of 10. Ampuls, 2 ml, boxes of 10, Vials, 10 ml, boxes of 1, Tel-E-Ject<sup>®</sup> (disposable syringes), 2 ml, boxes of 10. Each ml contains 5 mg diazepam, compounded with 40% propylene glycol, 10% ethyl alcohol, 5% sodium benzoate and benzoic acid as buffers, and 1.5% benzyl alcohol as preservative.



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# Examine Me.

During the past several years, I have heard my name mentioned in movies, on television and radio talk shows, and even at Senate subcommittee sessions. And I have seen it repeatedly in newspapers, magazines, and yes, best-sellers. Lately, whenever I see or hear the phrases "overmedicated society," "overuse," "misuse" and "abuse," my name is one of the reference points. Sometimes even *the* reference point.

These current issues, involving patient compliance or dependency-proneness, should be given careful scrutiny, for they may impede my overall therapeutic usefulness. As you know, a problem almost always involves improper usage. When I am prescribed and taken correctly, I can produce the effective relief for which I am intended.

Amid all this controversy, I ask you to reflect on and re-examine my merits. Think back on the patients in your practice who have been helped through your clinical counseling and prudent prescriptions for me. Consider your patients with heart problems, G.I. problems and interpersonal problems who, when their anxiety was severe, have been able to benefit from the medication choice you've made. Recall how often you've heard, as a result, "Doctor, I don't know what I would have done without your help."

You and I can feel proud of what we've done together to reduce excessive anxiety and thus help patients to cope more successfully.

If you examine and evaluate me in the light of your own experience, you'll come away with a confirmation of your knowledge that I *am* a safe and effective drug when prescribed judiciously and used wisely.



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